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C; Superfamily: pa C; Keywords: polle F; 2-160/Product: R:Ipsen, H.; Hansen, O.C. MOI. Immunol. 28, 1279-1288, 1991 MOI. The NH2-terminal amino acid sequence of the immunochemically partial ident. A;Title: The NH2-terminal amino acid sequence of the immunochemically partial ident. S) Car b I and Oak (Quercus alba) Que a I pollens. A;Reference number: A53288; MUID:92072607 A;Accession: B53288 A;Cross-references: EMBL:X15877; NID:g17937; PIDN:CAA33887.1; PID:g17938 R;Kungl, A.J.; Susani, M.; Lindemann, A.; Machius, M.; Visser, A.J.W.G.; Scheiner, Biochem. Biophys. Res. Commun. 223, 187-192, 1996 Biochem. Biophys. Res. Commun. 233, 187-192, 1996 A;Title: Evidence for an alpha helical T cell epitope in the C-terminus of the main A;Reference number: JC4834; MUID:96254050 Ş 밁 Q A;Note: the source is designated as Betula verrucosa C;Comment: This protein induces IgE synthesis by B cells in a T cell dependent manner C;Superfamily: pathogenesis related protein major pollen allergen Bet v 1 - European white birch C;Species: Betula pendula (European white birch) C;Date: 31-Mar-1990 #sequence_revision 31-Mar-1990 #text_change 04-Feb-2000 C;Accession: S03376; JC4834; B53288 뫄 A; Molecule type: protein A; Residues: 2-39, 'XX', 42-44 <IPS> A; Cross-references: PID:g239734; PIDN:AAB20452.1 A; Molecule type: mRNA A; Residues: 1-160 < KUN> A; Reference number: A; Accession: JC4834 A; Reference number: A; Accession: S05376 A; Title: The gene coding for the major birch A; Reference number: S05376; MUID: 90005395 EMBO J. 8, A; Experimental source: pollen A;Status: preliminary A;Status: nucleic acid sequence A; Residues: A; Molecule type: mRNA Query Match Best Local S Matches 157 Breiteneder, H.; Pettempo MBO J. 8, 1935-1938, 1989 Superfamily: path Keywords: pollen 62 61 N sequence extracted from NCBI backbone (NCBIP:68408) GVFNYETETTSVIPAARLFKAFILDGDNLFPKVAPQAISSVENISGNGGPGTIKKISFPE GVFNYETETTSVIPAARLFKAFILDGDNLFPKVAPQAISSVENIEGNGGPGTIKKISFPE 1-160 <BRE> Similarity H.; Pettenburger, major pollen allergen Bet v 1 #status experimental <MAT> Conservative 99.0%; 98.7%; not shown K.; Bito, 0 Score 810; DB 2; Pred. No. 1.7e-64; Mismatches A.; Valenta, R.; Kraft, D.; Rumpold, H.; pollen allergen BetvI, is highly homolow Length 160; Indels the C-terminus of the main 0 Gaps 60 61 0

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A;Title: Isoforms of Bet v 1, the major birch pollen allergen, A;Reference number: A55699; MUID:95155322
A;Molor: D55699
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major pollen allergen Bet v le - European white birch
C;Species: Betula pendula (European white birch)
C;Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #to
C;Accession: D55699; S41899
C;Accession: D55699; S41899
R;Swoboda, I; J11ek, A.; Ferreira, F.; Engel, E.; Ho:
ch, M.
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A;Accession: G55699
A;Molecule type: mRNA
A;Residues: 1-160 <SWO>
A;Cross-references: EMBL:X77271; NID:g452739; PIDN:CAA54487.1; PID:g4
A;Note: the source is designated as Betula verrucosa
C;Superfamily: pathogenesis-related protein
C;Keywords: pollen
C;Keywords: pollen
C;Keywords: pollen
                                                                                                                                                                                                      A; Molecule type: mRNA
A; Residues: 1-160 <SWO>
A; Cross-references: EMBL:X77267; NID:g452733; PIDN:CAA54483.1;
A; Note: the source is designated as Betula verrucosa
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C; Superfamily: pathogenesis-related protein
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A;Title: Isoforms of Bet v 1, the major birch A;Reference number: A55699; MUID:95155322
A;Accession: C55699
A;Molecule type: mRNA
A;Residues: 1-160 <SWO>
A;Residues: 1-160 <SWO>
A;Cross-references: EMBL:X77266; NID:9452731;
A;Note: the source is designated as Betula ver R;Swoboda, I.; Jilek, A.; Ferreira, F.; Vicent
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A;Molecule type: mRNA,
A;Molecule type: mRNA,
A;Residues: 1-160 <SW2>
A;Cross-references: EMBL:X77274; NID:g452745; PIDN:CAA54490.1;
A;Cross-references: EMBL:X77274; NID:g452745; PIDN:CAA54490.1;
A;Note: the source is designated as Betula verrucosa
C;Superfamily: pathogenesis-related protein
C;Keywords: pollen
C;Keywords: pollen
C;Keywords: pollen
C;Keywords: major pollen allergen Bet v lf/i #status exper
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A;Accession: E5599
A;Accession: E5599
A;Molecule type: mRNN
A;Residues: 1-160 <SWO>
A;Cross-references: EMBL:X77268; NID:9452735; PIDN:CAA54484.1; PID:9452736
A;Cross-references: EMBL:X77268; NID:9452735; PIDN:CAA54484.1; PID:9452736
A;Note: the source is designated as Betula verrucosa
A;Swoboda, I; Jilek, A.; Ferreira, F.; Vicente, O.; Hoffman-Sommergruber, submitted to the EMBJ, Data Library, January 1994
A;Reference number: $41896
A;Accession: $41905
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C;Species: Betula pendula (European whi
C;Date: 01-Dec-1995 #sequence_revision
C;Accession: E55699; S41905; S41900
R;Swoboda, I.; Jilek, A.; Ferreira, F.;
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94.3%;
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    NID:g452731; PIDN:CAA54482.1; PID:g452732 as Betula verrucosa ra, F.; Vicente, O.; Hoffman-Sommergruber,
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Pred. No. 3.4e-62;
5; Mismatches 4
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                                                                                                                                                                  allergen,
       Hoffman-Sommergruber, K.;
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RESULT,
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A;Title: Isoforms of Bet v 1, the major birch
A;Reference number: A55699; MUID:95155322
A;Accession: F55699
A;Molecule type: mRNA
A;Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               major pollen allergen Bet v 1g - European white birch (;Species: Betula pendula (European white birch) (;Species: Betula pendula (European white birch) (;Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 20-Aug-1999 (;Accession: F55699; S41896 R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K
                                                                                                                                                                     Ωy
                                                                                                                                                                                                                                                                                                                                            C;Keywords: pollen F;2-160/Product: major pollen allergen Bet v 1g #status experimental F;83/Binding site: carbohydrate (Asn) (covalent) #status absent
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A;Cross-references: EMBL:X77269; NID:g452727; PIDN:CAA54485.1;
A;Note: the source is designated as Betula verrucosa
C;Superfamily: pathogenesis-related protein
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A; Reference number:
A; Accession: S41901
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F; 83/Binding
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C; Keywords: pollen
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Pred. No. 6.3e-62;
6; Mismatches 4
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Pred. No. 5.1e-62;
4; Mismatches 5
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C;Species: Betula pendula (European white birch C;Species: Betula pendula (European white birch) C;Date: 01-Dec-1995 *sequence_revision 01-Dec-1995 *text_change C;Accession: A57427; S49450 R;Swoboda, I; Jilek, A.; Ferreira, F.: Fngal Tch, M.
                                                                                                    A;Cross-references: EMBL:X82028; NID:g807869; PIDN:CAA57550.1; A;Note: the source is designated as Betula verrucosa C;Superfamily: pathogenesis-related protein C;Keywords: pollen C;Keywords: pollen allergen Het v 1m/n #et
                                                                                                                                                                                                                                                                                             A;Cross-references: GB:X81972; NID:g807868; PIDN:CAA57497.1; PID R;Engel, E.; Kraft, D.; Scheiner, O.; Breitenbach, M.; Ferreira, submitted to the EMBL Data Library, October 1994
A;Description: Isoforms of BETVI, the major birch pollen allerge A;Reference number: 349450
                                                                                                                                                                                                                                                                                                                                                                                                                                                J. Biol. Chem. 270, 2607-2613, 1995 A; Title: Isoforms of Bet v 1, the ma A; Reference number: A55699; MUID:951 A; Accession: A57427
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A;Note: the source is designated as Betula verrucosa
C;Superfamily: pathogenesis-related protein
C;Keywords: pollen
C;Keywords: pollen
E;2-160/Product: major pollen allergen Bet v 11 #status experin
E;83/Binding site: carbohydrate (Asn) (covalent) #status absent
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A;Title: Isoforms of Bet v 1, the ma
A;Reference number: A55699; MUID:95:
A;Accession: I55699
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A; Residues: 1-160 < ENG>
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A; Residues: 1-160 <SWO>
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C;Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change
C;Accession: I55699; S41904
                                                                                                                                                                                                                                                       A; Status: preliminary
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A; Residues: 1-160 <SWO>
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                 Query Match
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Pred. No. 2.1e-61;
5; Mismatches 6
                 Score 735;
Pred. No. 7
Mismatches
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ira, F.
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ch, M.
J. Biol. Chem. 270, 2607-2613, 1995
A;Title: Isoforms of Bet v 1, the major birch pollen allerge:
A;Reference number: A55699; MUID:95155322
A;Accession: H55699
A;Molecule type: mRNA
A;Molecule type: mRNA
A;Mosidues: 1-160 <SWO>
A;Cross-references: EMBL:X77272; NID:9458478; PIDN:CAA54488...
A;Note: the source is designated as Betula verrucosa
C;Superfamily: pathogenesis-related protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Cross-references: EMBL:X77200; NID:g450884;
A; Note: the source is designated as Betula ver C; Superfamily: pathogenesis-related protein C; Keywords: pollen F; 2-160/Product: major pollen allernament.
                                                                                                                                                                                                                                                                           RESULT 10
H55699
major pollen allergen Bet v lk - European white birch
C;Species: Betula pendula (European white birch)
C;Date: 01-Dec-1995 *sequence_revision 01-Dec-1995 *text_change:
C;Accession: H55699; S41903
R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Somm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 9

A55699
major pollen allergen Bet v lb - European white birch
C;Species: Betula pendula (European white birch)
C;Species: O1-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 20-Aug-1999
C;Accession: A55699; S41401
C;Accession: A55699; S41401
R,Swoboda, I; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K
R,Swoboda, I; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K
T,B. Change 270 2607-2613 1006
                                                                                      C; Keywords: pollen F; 2-160/Product: ma
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A;Title: Isoforms of Bet v 1, the major birch
A;Reference number: A55699; MUID:95155322
A;Accession: A55699
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A; Residues: 1-160 <SWO>
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Best Local S
Matches 140
Query Match
Best Local Similarity
Matches 139; Conserv
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           Conservative
                                                                                      major pollen
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88.1%;
                     88.6%;
                                                                                      allergen Bet v 1k #status
        Score 725; DB Pred. No. 5.5e 9; Mismatches
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Pred. No. 2.4e-57;
3; Mismatches 11;
                                                                                                                                                                                                                                                                                Engel, E.; Hoffmann-Sommergruber, K.;
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                       DB 2;
.5e-57;
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        Query Match
Best Local Similarity
Matches 134; Conserv
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A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-160 <SWO>
A;Cross-references: EMBL:X77599; NID
A;Cross-references: EMBL:X77599; NID
A;Note: the source is designated as
C;Superfamily: pathogenesis-related
                                                                                                                                                                                                       RESULT 12
$47250

gene 1-Sc1 protein - European white bir c, Species: Betula pendula (European whi C; Date: 06-Jan-1995 #sequence_revision C; Accession: $47250
                                                                                                                                             R; Swoboda, I.; Scheiner, R; Swoboda, I.; Scheiner, Submitted to the EMBL Data submitted to the EMBL Data submitted to the EMBL Data
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A;Note: the source is designated as Betula verrucosa
C;Superfamily: pathogenesis-related protein
C;Keywords: pollen
F;2-160/Product: major pollen allergen Bet v lc #status
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A;Reference number: A55699; M
A;Recession: B55699
A;Molecule type: mRNA
A;Residues: 1-160 <SWO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C;Species: Betula pendula (European white birch)
C;Cate: Ol-Dec-1995 *sequence_revision Ol-Dec-1995 #text_change 20-Aug-1999
C;Accession: B55699; S41897
                                                                                                                              A; Reference number: A; Accession: S47250
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Best Local :
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                                                                                                                                                                                                                                 protein - European white birch
Betula pendula (European white birch)
- Tan-1995 #sequence_revision 06-Jan-1995
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86.8%;
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        NID:g534909; PIDN:CAA54694.1; PID:g534910 as Betula verrucosa ted protein
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1994
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Conservative

9;

85.8%; 84.3%;

Score 702; Pred. No. 5.

DB 2; .8e-55;

Length 160;

Indels

0;

Gaps

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Eur. J. Biochem. 212, 355-362, 1993
A;Title: Four recombinant isoforms of Cor a I, the major allergen of hazel pollen, show A;Reference number: S30053; MUID:93185652
                                                                                                                               A;Gene: Cor a I/6
C;Superfamily: pat
C;Keywords: pollen
                                                                                                                                                                                                                                                                                                                                                                         major allergen Cor a I/6 - European hazel
C;Species: Corylus avellana (European hazel)
C;Date: 07-Apr-1994 #sequence_revision 07-Apr-1994 #text_change 20-Aug-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Reference number: S4
A; Accession: S47251
A; Status: preliminary
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C;Species: Betula pendula (European white birch)
C;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change
C;Accession: S47251
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S47251
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A; Residues: 1-160 <BRE>
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A; Residues: 1-159 <SWO>
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 GVFNYETETTSVIPAARLFKAFILDGDNLFPKVAPQAISSVENISGNGGPGTIKKISFPE 60
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                                                                                                                                                    pathogenesis-related
                                       Conservative
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72.3%;
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84.3%;
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Pred. No. 2.2e-47;
2; Mismatches 22
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Pred. No. 1.3e-54;
9; Mismatches 16
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                                                                      Length 160;
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Bur. J. Blochem. 212, 355-362, 1993
A;Title: Four recombinant isoforms of Cor a I,
A;Reference number: $30053; MUID:93185652
A;Accession: $30055.
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                                                                                                                                                                                                                                                    C; Superfamily: pathogenesis-related protein
C; Keywords: pollen
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A;Residues: 1-133,'1',135-160 <BRE2>
A;Cross-references: EMBL:X70997; NID:g22683;
                                                                                                                                                                                                                                                                                                                                                          submitted to the EMBL Data Library, February 1993 A;Reference number: S35507 A;Accession: S35507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     major allergen Cor a I/11 - European hazel)
c;Species: Corylus aveilana (European hazel)
c;Date: 07-Apr-1994 #sequence_revision 07-Apr-1994 #text_change 20-Aug-1999
C;Accession: S30055; S35507
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A; Residues: 1-160 <BRE1>
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72.3%; Pred. No. 2.2e-47;
tive 22; Mismatches 22
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          the major allergen of hazel pollen,
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1: /cgn2_6/ptodata/2,

2: /cgn2_6/ptodata/2,

3: /cgn2_6/ptodata/2,

4: /cgn2_6/ptodata/2,

5: /cgn2_6/ptodata/2,
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      BLOSUM62
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US-08-363-010-1
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PCT-US-95-02251-12
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US-08-669-378-2
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Sequence 23, Appl
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Sequence 18, Appl
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Sequence 18, Appl
Sequence 19, Appl
Sequence 19, Appl
Sequence 20, Appl
Sequence 30, Appl
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ALIGNMENTS

: AATTORNEY/AGENT INFORMATION: : NAME: JONES III, HAITY C REGISTRATION NUMBER: 20,280 REFERENCE/DOCKET NUMBER: 6530-010 TELECOMMUNICATION INFORMATION: TELEPHONE: (212) 790-9090 TELEFAX: (212) 869-9741/8864 TELEX: 66141 PENNIE INFORMATION FOR SEQ ID NO: 23: SEQUENCE CHARACTERISTICS: LENGTH: 160 amino acids TYPE: amino acids TYPE: amino acids TYPE: amino acids TYPE: amino acids ORDECULE TYPE: peptide HYPOTHETICAL: NO ORIGINAL SOURCE: ORIGINAL SOURCE: ORIGINAL SOURCE:	Pennie & Ork York York S.A. 2711 Floppy BLE FORM Floppy Floppy Floppy Floppy ON	US-07-847-100-23 Sequence 23, Application US/07847010 Patent No. 5693495 Patent No. 5693495 GENERAL INFORMATION: APPLICANT: Breiteneder, Heimo APPLICANT: Reikerstorfer, Arnold APPLICANT: Hoffmann - Sommergruber, Karin APPLICANT: Kraft, Dietrich APPLICANT: Kraft, Dietrich APPLICANT: Rumpold, Helmut APPLICANT: Scheiner, Otto APPLICANT: Scheiner, Otto APPLICANT: Ferreira, Fattima TITLE OF INVENTION: Allergens of Alder Pollen and NUMBER OF SEQUENCES: 23 CORRESPONDENCE ADDRESS:
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RESULT 2
US-07-847-010-3
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Best Local Similarity 99.4
Matches 158; Conservative
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                                                                                                                                                                                                     COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
COMPUTER: IBM PC COMPATIBLE
COMPUTER: PATENTING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, \
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/847,010
FILING DATE: 07-JUN-1992
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: JONES III, HATTY C
REGISTRATION NUMBER: 20,280
REFERENCE/DOCKET NUMBER: 0530-010
                                                                                                                             INFORMATION FOR SEQ ID NO: 3:
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LIBRARY: POLLI
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               MOLECULE TYPE: peptide HYPOTHETICAL: NO ORIGINAL SOURCE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
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                                                                                                                                             : (212) 869-9741/8864
66141 PENNIE
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1155 Avenue of the Americas
                                                                                           160 amino acids
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Ebner, Christof
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Kraft, Dietrich
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Valenta, Rudolf
Hoffmann - Sommergruber,
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Alder (Alnus sp.)
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Pred. No. 1.8e-83;
                                                                                                                                                                                                             6530-010
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US-07-847-010-14
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Best Local Similarity
                                                                                                                                INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 160 amino acid
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APPLICANT:
                                                                                                                                                                                                                            NAME: Jones III, Harry C
REGISTRATION NUMBER: 20,280
REFERENCE/DOCKET NUMBER: 65:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                           CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                          SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA: APPLICATION WIMBER: US/07/847,010 FILING DATE: 01-JUN-1992
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MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                  MOLECULE TYPE: peptide HYPOTHETICAL: NO ORIGINAL SOURCE:
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                    ORGANISM: haze IMMEDIATE SOURCE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE: New York
COUNTRY: U.S.A.
ZIP: 10036-2711
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                                                                                                    TOPOLOGY:
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                                                                                                                 amino acid
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(212) 86
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Scheiner, Otto
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Hoffmann - Sommergruber,
Breitenbach, Michael
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      POLLEN FROM ALLERGON AB, ENGELHOLM, SWEDEN
                                    hazel (Corylus sp.)
                                                                                                     linear
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81.1%;
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Pred. No. 9.5e-69;
2; Mismatches 18;
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US-07-847-010-17
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Best Local Similarity
                                                                                                                                            TELEPHONE: (212) 790-9.
TELEFAX: (212) 869-974
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                   MOLECULE TYPE: pe
HYPOTHETICAL: NO
ORIGINAL SOURCE:
ORGANISM: hazel
                                                                                                                                                                                                       REFERENCE/DOCKET NUMBER: 20,280
REFERENCE/DOCKET NUMBER: 65:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
TELEPHONE: (212) 790-9090
                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA:
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MEDIUM TYPE: Floppy disk
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                    IMMEDIATE SOURCE:
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                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/07/847,010 FILING DATE: 01-JUN-1992 CLASSIFICATION: 435
                                                                                                                                                                                                                                                             NAME: Jones III, Harry C REGISTRATION NUMBER: 20,
                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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E: New York
WIRY: U.S.A.
10036-2711
                                                                                                               amino acid
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                                                                                                                                  160 amino acids
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Kraft, Dietrich
POLLEN FROM ALLERGON AB, ENGELHOLM, SWEDEN
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                                hazel (Corylus sp.)
                                                                                                  linear
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                                                                                 peptide
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73.0%;
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                                                                                                                         INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 160 amino acids
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                                                                                                                                                                                                                           REGISTRATION NUMBER: 20,280
REFERENCE/DOCKET NUMBER: 65
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
NAME: Jones III, Harry C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
ADDRESSEE: Pennie & Edmonds
                  IMMEDIATE SOURCE:
                                               ORIGINAL SOURCE:
                                                            HYPOTHETICAL:
                                                                             MOLECULE TYPE:
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MEDIUM TYPE: Floppy disk
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                                 ORGANISM:
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                                                                                                TOPOLOGY:
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                                                                                                            amino acid
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Y: U.S.A.
POLLEN FROM ALLERGON AB, ENGELHOLM, SWEDEN
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73.0%;
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COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
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TITLE OF INVENTION: Allergens of Alder Pollen and
TITLE OF INVENTION: Applications Thereof
NUMBER OF SEQUENCES: 23
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hazel (Corylus sp.)
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(12) 869-9741/8864
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Pred. No. 7.9e-62;
2; Mismatches 21;
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RESULT 6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                 TELEFAX: (212) 869-974
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 160 amino acid
                              MOLECULE TYPE: per HYPOTHETICAL: NO ORIGINAL SOURCE: ORGANISM: hazel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
APPLICANT:
APPLICANT:
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: Jones III, Harry C
REGISTRATION NUMBER: 20,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Ferreira, Fatima
TITLE OF INVENTION: Allergens of Alder Pollen and
TITLE OF INVENTION: Applications Thereof
NUMBER OF SEQUENCES: 23
                 IMMEDIATE SOURCE:
                                                                                                                                                                                                                     REFERENCE/DOCKET NUMBER: 65
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/OFILING DATE: 01-JUN-1992 CLASSIFICATION: 435
                                                                                                                                                                                        TELEPHONE: (212) /5-7741/8864
                                                                                                                                                                                                                                                                                                                                                                                              OPERATING SYSTEM: F
SOFTWARE: PatentIn
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                                                                                                TYPE: amino acid TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET: 1155 Avenue of the Americas CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   62
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                                                                                                                                   160 amino acids
POLLEN FROM ALLERGON AB,
                              hazel (Corylus sp.)
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Kraft, Dietrich
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                                                                                                                                                                                                                                                                                                                                                                                                              IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
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                                                                                peptide
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72.3%;
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Pred. No. 3.7e-61;
2; Mismatches 22;
ENGELHOLM, SWEDEN
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;Patent No. 5312912
; APPLICANT: HADW;GER, LEE A.;CHIANG,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: PROCEDURES AND REGULATORY DNA SEQUENCES FOR GENETICALLY ENGINEERING DISEASE RESISTANCE AND OTHER INDUCIBLE TRAITS IN PLANTS

NUMBER OF SEQUENCES: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQ ID NO:2:
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Matches
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-- rocal Similarity
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Best Local Similarity
Matches 113; Conserv
                                                                                                                                                                                                                                              Sequence 1, Application US/08363010 Patent No. 5512484
                                                                                                                                                                                                                             GENERAL INFORMATION:
 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                             TITLE OF INVENTION: CÂRROT 16 KD PROTEIN, GENE CODING FOR TITLE OF INVENTION: SAID PROTEIN AND PLASMID CONTAINING SINUMBER OF SEQUENCES: 6
                                                                                                                                                                                             APPLICANT: Yamamoto, Mi
APPLICANT: Oheda, Kenji
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION DATA:
                                                                                                                                 CORRESPONDENCE ADDRESS
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122 HAKGDHEINAEEMKGAKEMAEKLLRAVETYLLAHSAEYN 160
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                                                                                               STREET:
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                                                                    STATE:
                                                                                 CITY: Falls Church
                                                                                                                                                                                                                                                                                                                                                                                                                61 DGETKYVLHKVELVDDANWANNYSIVGGVGLPDTVEKISFEAKLSAGPNGGSIAKLSVKY 120
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 158
                                                                                                                ADDRESSEE:
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                                                                Virginia
                                                                                               E: Birch, Stewart, Kolasch & Birch, 8110 Gatehouse Road, Suite 500 East
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                                                                                                                                                                                                                 Yamamoto, Mika
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13-JUN-1989
Floppy disk
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Pred. No. 1.3e-34;
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Pred. No. 1.3e-59;
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US-08-911-434A-4
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US-08-363-010-1
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Best Local Similarity
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APPLICANT: TORIKAI, Satomi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEFAX: (703) 205-8050
TELEX: 248345
INFORMATION FOR SEQ ID NO: 1:
                              MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/911,434A
FILING DATE: 12-AUG-1997
                                                                                                                                  COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
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TYPE: amino acid
STRANDENNESS: sing
STRANDENESS: linear
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LENGTH: 154 amino acids
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TELEFAX: (703) 205-8050
   ATTORNEY/AGENT INFORMATION
                                                                                                                                                                                                                                                                NUMBER OF SEQUENCES: 1
                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE:
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ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                             ADDRESSEE: BIRCH, STEWART, STREET: P.O. BOX 747 CITY: FALLS CHURCH STATE: VIRGINIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/0 FILING DATE: 23-DEC-1994 CLASSIFICATION: 435
                      CLASSIFICATION:
                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 GSPITSMTVRTDAVNKEALTYDSTVIDGDILLEFIESIETHMVVVPTADGGSITKTTAIF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 GLPFKYVKDRVDEVDHTNFKYNYSVIEGGPIGDTLEKISNEIKIVATPDGGSILKISNKY 120
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME: Svensson, Leonard R. REGISTRATION NUMBER: 30,330 REFERENCE/DOCKET NUMBER: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 GAQSHSLEITSSVSAEKIFSGIVLDVDTVIPKAAPGAYKSVD-VKGDGGAGTVRIITLPE 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 GVFNYETETTSVIPAARLFKAFILDGDNLFPKVAPQAISSVENIEGNGGPGTIKKISFPE 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HTKGDAVVPEENIKFADAQNTALFKAIEAYLIAN 154
                                                                                                                                                                     22040
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                                                                                                                                                                                   UNITED STATES OF AMERICA
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NN: PLANT PROMOTER AND UTILIZATION THEREOF
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37.0%;
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                                                                    Query Match
Best Local
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STATE: U.C
STATE: DOO4
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ADDRESSEE:
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; MOLECULE TYPE: protein US-08-199-219-6
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Patent No. 6031151 5698768
GENERAL INFORMATION:
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Best Local Similarity
Matches 57; Conserv
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 154 amino acids
                                                                                                                                                                                                        INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                               COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                           SEQUENCE CHARACTERISTICS:
LENGTH: 158 amino acids
TYPE: amino acid
                                                                                                                                                                                                                     PRIOR APPLICATION DATA:
PRIOR APPLICATION DATA:
PRIOR APPLICATION DATA:
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)205-8000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: DRAPER, JOHN
TITLE OF INVENTION: CALLUS-SPECIFIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121 HTKGDAVVPEENIKFADAQNTALFKAIEAYLIAN 154
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FILING DATE: 01 MARCH 1994
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   Local Similarity les 56; Conserv
                                                                                                                                                                                                                                                                                                                                                                                       MEDIUM TYPE: Floppy disk
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                WASHINGTON
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1455.PENNSYLVANIA AVENUE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (703)205-8050
(703) 7D NO: 4:
   Conservative
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                 28.8%;
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                                                                                                                                                                                                                                                                                              US/08/199,219
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                                                                                                                                                                                                                       APPLICATION NUMBER: PCT/GB92/01602 FILING DATE: 02 SEPTEMBER 1992
                                                                                                                                                                                                          5
   30;
 Score 236; DB 3; I
Pred. No. 6.9e-19;
0; Mismatches 66;
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                                    Length 158
   Indels
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Best Local Similarity
"~+ches 38; Conserv?
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SEQUENCE CHARACTERISTICS:
LENGTH: 1442 amino acids
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                                                                                                         1130 DGSNGIPGPIGPPGPRGRSGETGPVGPPGSPGPPGPPGPPGPGI--DMSAFAGLGQREKG 1187
                                                                                                                                                                                                                                                                                                                                                                                                        REGISTRATION NUMBER: 32,165
REFERENCE/DOCKET NUMBER: UM
TELECOMMUNICATION INFORMATION:
TELEPHONE: (512) 418-3000
TELEFAX: (713) 789-2679
TELEX: 79-0924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, Version CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/316,650
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MEDIUM TYPE: Floppy disk
                                       1188 PDPMQYM--RADEADSTLRQHDVEV-----DATLKSLNNQIESIRSPDGSRKNPARTCQ 1239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: US 08 FILING DATE: 30-SEP-1994 ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
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113 ILKISNKYHTKGDHEVKAEQ-----
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ZIP: 77210
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                                                                                                                                         25 DGDNLFP------KVAPQAISSVENIEGNGGPGTIKKISFPEGL----- 62
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                                                                       --PFKYVKDRVDEVDHTNFKYNYSVIEGGPIGDTLEKISNEIKIVATPDGG------S 112
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                                                                                                                                                                                                                                                                                                                                    amino acid
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P.O. Box 4433
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                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                    linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         David L.
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                                                                                                                                                                                                                                                                                                                  single
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                                                                                                                                                                                               Score 78; DB 2; Pred. No. 7.8;
       --- VKASKEMGET 142
                                                                                                                                                                               Mismatches
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                                                                                                                                                                               52;
                                                                                                                                                                                                                 Length 1442;
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                                                                                                                                                                                             Matches
                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                        INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1240 DLKLCHPEWKSGDYWIDPNQGCTLDAMKVFCNMETGET 1277
                                                                                                                               1130 DGSNGIPGPIGPPGPRGRSGETGPVGPPGSPGPPGPPGPPGPGI--DMSAFAGLGQREKG 1187
                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE/DOCKET NUMBER: UM
TELECOMMUNICATION INFORMATION:
TELEPHONE: (512) 418-3000
TELEPAX: (713) 789-2679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 0
FILING DATE: 30-SEP-1994
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION DATA:
APPLICATION NUMBER: PC
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MEDIUM TYPE: Floppy disk
1240 DLKLCHPEWKSGDYWIDPNQGCTLDAMKVFCNMETGET 1277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: Parker, David L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                               1188 PDPMQYM--RADEADSTLRQHDVEV-----DATLKSLNNQIESIRSPDGSRKNPARTCQ 1239
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COUNTRY: ULL
77210
                                                                                  63 --PFKYVKDRVDEVDHTNFKYNYSVIEGGPIGDTLEKISNEIKIVATPDGG-------S 112
                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: (
                                                                                                                                                               25 DGDNLFP-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US 08/199,780 FILING DATE: 18-FEB-1994 CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM PC
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                             TOPOLOGY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME: Parker, David L. REGISTRATION NUMBER: 3
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                               ILKISNKYHTKGDHEVKAEQ-----
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38; Conserv
                                                                                                                                                                                                                                                                                                                                          amino acid
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                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IBM PC compatible
SYSTEM: PC-DOS/MS-DOS/ASCII
                                                                                                                                                                                                                                                                                                               linear
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24.1%;
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ENTLY HEREWITH
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                                                                                                                                                                                                              Score 78; DB 4; Length 1442; Pred. No. 7.8;
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RESULT 13 US-08-357-533A-8

Sequence 8, Application

US/08357533A

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                                                                                                                            RESULT
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                                            Sequence 8, Application US/08459009 patent No. 5861479
GENERAL INFORMATION:
APPLICANT: JIN, DONALD F
                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local (
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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NAME: KELLY, ROBIN D
REGISTRATION NUMBER: 34,637
REFERENCE/DOCKET NUMBER: CR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA:
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MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE:
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                                 APPLICANT:
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                                                                                                                                                                                                        120 YHTKGDHEVKAEQVKASKEMGETLL----RAVESYLLAH 154
                                                                                                                                                                                                                                      260 MPNNMKDMLDVLEETS------GSGMGPTTLHKLTIGGQIRLTGRVGSGRFGNVS-- 308
                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
nes 39; Conserv
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                                                                                                                                                                                                                                                                      63 PFKYVKDRVDEVDHTNFKYNYSVIEGGPIG-DTLEK--ISNEIKIVATPDGGSILKISNK 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRANDEDNESS: single
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JIN, DONALD F
OPPERMANN, HERMANN
KUBERASAMPATH, THANC
SMART, JOHN E
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45 SOUTH STREET
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                                                                                                                                                    Sequence 8, Application US/08459951 Patent No. 6093547
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                                                                                                                                        GENERAL INFORMATION:
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (508)-435-9001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/357,533
FILING DATE: 16-DEC-1994
ATTORNEY/AGENT INFORMATION:
                NUMBER OF SEQUENCES: 1
                                                                                                APPLICANT: JIN, DONALD F
APPLICANT: OPPERMANN, HERMANN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
LENGTH: 669 amino acid
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                                                  TITLE OF INVENTION:
                                                                 APPLICANT: KUBERASAMPATH, APPLICANT: SMART, JOHN E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE: protein
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                                                                                                                                                                                                                                                              309 --- RGDYRGEAVAVKVFNALDEPAFHKETEIFETRMLRH
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OTHER INFORMATION:
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CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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 ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: KELLY, ROBIN D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                    8 ETTSVIPAARLFKAFILDGD---NLFPKVAP--QAISSVENIEGNGGPGTIKKISFPEGL 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           39;
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PATENT ADMINISTRATOR, CREATIVE BIOMOLECULES
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Pred. No. 3
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Search completed: December 11, 2000, 09:50:02 Job time: 499 sec
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; NAME/KEY: Protein
; LOCATION: 1..669
; OTHER INFORMATION: /note= "C ELEGANS RECEPTOR KINASE"
US-08-459-951-8
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PRIOR APPLICATION UMBER: US 08/357,533

FILING DATE: 16-DEC-1994

ATTORNEY/AGENT INFORMATION:

NAME: KELLY, ROBIN D

REGISTRATION NUMBER: 34,637

REFERENCE/DOCKET NUMBER: CRP-073FW

TELEPHONE: (508)-435-9001

TELEPAX: (508)-435-9001

TELEPAX: (508)-435-9001

INFORMATION FOR SEQ-TD NO: 8:

SEQUENCE CHARACTERISTICS:

LENGTH: 669 amino acids

TYPE: amino acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 9.4%; Score 77; DB 3; Length 669; Best Local Similarity 24.5%; Pred. No. 3.2; Matches 39; Conservative 24; Mismatches 54; Indels
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: PRICE PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION UMBER: US/08/459,951
FILING DATE:
CLASSIFICATION: 435
DELICE SOFTWARE: A35
                                                                                                                       309 ---RGDYRGEAVAVKVFNALDEPAFHKETEIFETRMLRH 344
                                                                                                                                                      120 YHTKGDHEVKAEQVKASKEMGETLL----RAVESYLLAH 154
                                                                                                                                                                                                                                                                                                                    216 ETENNVPMVTM------GDGAGSSVPEVAPIEQQGSTMSTSAGN-------SFPPGI 259
                                                                                                                                                                                                                       260 MPNNMKDMLDVLEETS-----GSGMGPTTLHKLTIGGQIRLTGRVGSGRFGNVS-- 308
                                                                                                                                                                                                                                                                      63 PFKYVKDRVDEVDHTNFKYNYSVIEGGPIG-DTLEK--ISNEIKIVATPDGGSILKISNK 119
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STREET: 45 SOUTH STREET
CITY: HOPKINTON
STATE: MA
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Result
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Maximum
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Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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      Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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5 betula verr
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0 carpinus be
9 carpinus dee
7 corylus aviu
1 malus domes
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9 lupinus lut
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01-NOV-1995
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Svoboda I., Jilek A., Ferreira F., Engel E., Hoffman-Sommergrube Svobeiner O., Kraft D., Breitender H., Pittenauer E., Schmid E., Vicente O., Heberle-Bors E., Ahorn H., Breitenbach M.; Vicente O., Heberle-Bors E., Ahorn H., Breitenbach M.; "Isoforms of Bet v 1, the major birch pollen allergen, analyzed liquid chromatography, mass spectrometry, and cDNA cloning."; 119101. Chem. 270:2607-2613(1995).

J. Biol. Chem. 270:2607-2613(1995).

-i- SUBCELLULAR LOCATION: CYTOPLASMIC.

-i- DISEASE: MAIN CAUSE OF TYPE I ALLERGIC REACTIONS IN EUROPE,
                                                                                                                                                                                                                                                                                                            LT 2
BETVE
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Eukaryota; Viridiplantae; Embryophyta; Tracheo
Magnoliophyta; eudicotyledons; core eudicots;
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3L; Z80104; CAB02159.1; -.
3L; Z80104; CAB02159.1; -.
3L; BTV; 17-AUC-97.
3; 1BTV; 17-SEP-97.
3; 1BV1; 17-SEP-97.
4; 1ERPRO; 1PR000916; -.
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P43178;
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MEDLINE: 9515322.

Swoboda I., Jilek A., Ferreira F., Engel E., Hoffman-Sommergruber Swoboda I., Jilek A., Ferreira F., Pittenauer E., Schmid E., Scheiner O., Kraft D., Breiteneder H., Pittenauer E., Schmid E., Vicente O., Heberle-Bors E., Ahorn H., Breitenbach M.;

"Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chromatography, mass spectrometry, and cDNA cloning.";

J. Biol. Chem. 270:2607-2613(1995).

--- SUBCELLULAR LOCATION: CYTOPLASMIC.

--- DISEASE: MAIN CAUSE OF TYPE I ALLERGIC REACTIONS IN EUROPE, NO
                                                 the European Bioinformatics Institute. There are no rest
use by non-profit institutions as long as its content
modified and this statement is not removed. Usage by an
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Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids I;
Fagales; Betulaceae; Betula.
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INIT_MET 0. 0
SEQUENCE 159 AA; 17408 MW; D2AC26E9E7710A8D CRC64;
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PRINTS; PR00634; BETALLERGEN.
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P15494; 1BTV.
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2N ALLERGEN
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BET V 1-E (BET V I-E).
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Pred. No. 8.8e
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                                                                                              There are no restrictions
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BV1F_BETVE
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Best Local S
Matches 151
HSSP; P15494; ....
INTERPRO; IPRO00916; -.
PFAM; PF00407; Bet_V_I; 1.
PRINTS; PR00634; BETALLERGEN.
PROSITE; PS00451; PATHOGENESIS
                                                                                                                                                                                                                                                                                                       MEDLINE; 95155322.

MEDLINE; 95155322.

MEDLINE; 95155322.

Svoboda I., Jilek A., Ferreira F., Engel E., Hoffman-Sommergrube Scheiner O., Kraft D., Breiteneder H., Pittenauer E., Schmid E., Vicente O., Heberle-Bors E., Ahorn H., Breitenbach M.;

"Isoforms of Bet v 1, the major birch pollen allergen, analyzed liquid chromatography, mass spectrometry, and cDNA cloning.";

J. Biol. Chem. 270:2607-2613(1995).

-I- SUBCELLULAR LOCATION: CYTOPLASMIC.

-I- DISEASE: MAIN CAUSE OF TYPE I ALLERGIC REACTIONS IN EUROPE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BV1F_BETVE P43179;
                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the El the European Bioinformatics Institute. There are no resti
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
MAJOR POLLEN ALLERGEN BET V 1-F/I (BET V I-F/I).
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PFAM; PF00407; Bet_v_I; 1.

PRINTS; PR00634; BETALLERGEN.

PROSITE; PS00451; PATHOGENESIS_BETVI; 1.

PATHOGENESIS related protein; Allergen; b

INIT_MET 0

SEQUENCE 159 AA; 17316 MW; 3E752543EI
                                                                                                                                          use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Betula verrucosa (White birch) (Betula pendula).
Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids I;
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                                                                            EMBL; X77268; CAA54484.1;
EMBL; X77274; CAA54490.1;
HSSP; P15494; 1BTV.
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SIMILARITY: BELONGS TO THE BETVI FAMILY
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RESULT 5
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Best Local's
Matches 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Swoboda I., Jilek A., Ferreira F., Engel E., Hoffman-Sommergrube Scheiner O., Kraft D., Breiteneder H., Pittenauer E., Schmid E., Vicente O., Heberle-Bors E., Ahorn H., Breitenbach M.; "Isoforms of Bet v 1, the major birch pollen allergen, analyzed liquid chromatography, mass spectrometry, and cDNA cloning."; J. Biol. Chem. 270:2607-2613(1995).

-i- SUBCELLULAR LOCATION: CYTOPLASMIC.

-i- DISEASE: MAIN CAUSE OF TYPE I ALLERGIC REACTIONS IN EUROPE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BV1D_BETVE P43177;
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                                                                                                                                                                                                                                                                                                                                                                   use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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Betula verrucosa (White birch) (Betula pendula).

Eukaryota, viridiplantae; Embryophyta; Tracheophyta; Spagnoliophyta; eudicotyledons; core eudicots; Rosidae;
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01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
MAJOR POLLEN ALLERGEN BET V 1-D/H (BET V I-D/H).
                                                                                               SEQUENCE
                                                                                                                   PFAM; PF00407; Set_v_I; 1.

PRINTS; PR00634; BETALLERGEN.

PROSITE; PS00451; PATHOGENESIS_BETVI;

Pathogenesis-related protein; Allerger

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EMBL; X77270; CAA54
HSSP; P15494; 13TV.
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SIMILARITY: BELONGS TO THE BETVI FAMILY
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CAA54486.1;
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                                                                                                 17418 MW;
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5; Mismatches
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No. 4.3e-61;
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                                                                                                                                                             Pathogenesis-related INIT_MET 0 SEQUENCE 159 AA; 1
                                                                                                                                                                                                 EMBL; X77269; CAA54485.1; -.
HSSP; P15494; 1BTV.
INTERPRO; IPR000916; -.
PFAM; PF00407; Bet_V_I; 1.
PRINTS; PR00634; BETALLERGEN.
PROSITE; PS00451; PATHOGENESIS_BETVI;
PROSITE; PS00451; PATHOGENESIS_BETVI;
                                                                                                                                                                                                                                                                                            use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and fo entities requires a license agreement (See http://www.lsb-slb.or send an email to license@isb-sib.ch).
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01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
MAJOR POLLEN ALLERGEN BET V 1-G (BET V I-G).
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Eukaryota; Viridiplantae; Embry
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                                                                                                                                                                                                                                                                                                                                                                                                                                            DISEASE: MAIN CAUSE OF TYPE I ALLERGIC REACTIONS
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SIMILARITY: BELONGS TO THE BETVI FAMILY OF
                                        GLPFKYVKDRVDEVDHTNFKYNYSVIEGGPIGDTLEKISNEIKIVATPDGGSILKISNKY
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Embryophyta;
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MEDLINE; 9515532.

Swoboda I., Jilek A., Ferreira F., Engel E., Hoffman-Sommergruber Scheiner O., Krüft D., Breiteneder H., Pittenauer E., Schmid E., Vicente O., Heberle-Bors E., Ahorn H., Breitenbach M.;

"Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chromatography, mass spectrometry, and cDNA cloning.";

J. Biol. Chem. 270:2607-2613(1995).

-!- SUBCELLULAR LOCATION: CYTOPLASMIC.

-!- DISEASE: MAIN CAUSE OF TYPE I ALLERGIC REACTIONS IN EUROPE, NO
                                                                                                                                                                                                                                                                                                                                                                   modified and this statement is not removed. Usage by and foentities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
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01-NOV-1995 (Rel.
01-NOV-1997 (Rel.
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Magnoliophyta; eudicotyledons;
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PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
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               HTKGDHEVKAEQVKASKEMGETLLRAVESYLLAHSDAYN
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93.7%;
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Embryophyta; Tracheophyta; Spermatophyta;
lons; core eudicots; Rosidae; eurosids I;
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BY SIMILARITY.
                                                                                                                                                              Score 780; DB 1;
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5; Mismatches
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BETVE
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P45431;
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MAJOR POLLEN
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BV1M_BETVE
P43186;
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EMBL; X82028; CAA57550.1; -.
HSSP; P15494; 1BTV.
INTERPRO; IPR000916; -.
PFAM; PF00407; Bett_v_I; 1.
PRINTS; PR00634; BETALLERGEN.
PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
PATHOGENESIS_TELATED protein; Allergen; Multigene in the protein of the pro
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BETVIM AND BETVIN.

Betula verrucosa (White birch) (Betula pendula).

Betula verrucosa (White birch) (Betula pendula).

Bukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophy

Bukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophy

Magnollophyta; eudicotyledons; core eudicots; Rosidae; eurosids

Fagales; Betulaceae; Betula.
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Swoboda I., Jilek A., Ferreira F., Engel E., Hoffman-Soscheiner O., Kraft D., Breiteneder H., Pittenauer E., Scheiner O., Kraft D., Breiteneder H., Breitenbach M.;

Vicente O., Heberle-Bors E., Ahorn H., Breitenbach M.;
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01-NOV-1995 (Rel. 32,
01-NOV-1997 (Rel. 35,
MAJOR POLLEN ALLERGEN
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    POLLEN
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(Rel. 32,
(Rel. 32,
(Rel. 35,
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                                                                                                                   STANDARD;
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BET V 1-M/N (BET V I-M/N).
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V 1-B (BET V I-B)
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Pred. No. 4.7e-57;
                                                                                                                   PRT;
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                                                                                                                                                                                                                              P43184;
01-NOV-1995
01-NOV-1995
01-NOV-1997
                                                         Fagales;
                                                                                                Betula verrucosa (White birch)
Eukaryota; Viridiplantae; Embr
Magnoliophyta; audicotyledons;
                                                                                                                                                                                                                                                                                                                                                              BETVE
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-!- SUBCELLUIAR LOCATION: CYTOPLASMIC.

-!- DISEASE: MAIN CAUSE OF TYPE I ALLERGIC REACTIONS IN EUROPE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; X77200; CAA54421.1; -.
HSSP; P15494; 1BTV.
INTERPRO; IPR000916; -.
PFAM; PF00407; Bet_v_I; 1.
PRINTS; PR00634; BETALLERGEN.
PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
       TISSUE-POLLEN;
                            SEQUENCE FROM
                                                                                                                                                                                  BETV1K.
                                                                                                                                                                                                         MAJOR POLLEN
                                                                                                                                                                                                                                                                                                                                  BV1K_BETVE
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Swoboda I., Jilek A., Ferreira
Scheiner O., Kraft D., Breiten
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Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; eudicotyledoms; core eudicots; Rosidae; eurosids I;
Fagales; Betulaceae; Betula.
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INIT_MET 0
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                                                                              Betulaceae;
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(Rel. 32, Last sequence update)
(Rel. 35, Last annotation update)
N ALLERGEN BET V 1-K (BET V I-K).
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iplantae; Embryophyta; Tracheophyta; Spermatophyta;
udicotyledons; core eudicots; Rosidae; eurosids I;
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                                                                              Betula.
                            PARTIAL
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: Pred. No. 1.6e
8; Mismatches
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                               SEQUENCE
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1.6e-56;
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P43176;
01-NOV-1995
01-NOV-1995
01-NOV-1997
                      MEDLINE; 9515532.

Swoboda I., Jilek A., Ferreira F., Engel E., Hoffman-Sc Scheiner O., Kraft D., Breiteneder H., Pittenauer E., Steiner O., Kraft D., Breiteneder H., Breitenbach M.; Vicente O., Heberle-Bors E., Ahorn H., Breitenbach M.; Tsoforms of Bet v 1, the major birch pollen allergen, liquid chromatography, mass spectrometry, and cDNA clor J. Biol. Chem. 270:2607-2613(1995).
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                                                                                                                                                                                                                                                                                      Betula verrucosa (White birch) (Betula pendula).
Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids I;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INTERPRO; IFKOUDELY, I; 1.

PFAM; PF00407; Bet_v_I; 1.

PRINTS; PR00634; BETALLERGEN.

PROSITE; PS00451; PATHOGENESIS_BETVI; 1.

PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
                                                                                                                                                                                               TISSUE-POLLEN;
                                                                                                                                                                                                                   SEQUENCE FROM N.A.,
                                                                                                                                                                                                                                                                    Fagales;
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HSSP; P15494;
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(Rel. 32, Last sequence up)
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Ol-NOV-1997 (Rel. 35, Last annotation updat
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Kraft D., Scheiner O.
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Bioinformatics and the EMBL

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There are no restrictions on

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RESULT 13

MPA2_CARBE
ID MPA2_C.
AC P38950
DT 01-FEB
DT MAJOR
C Fagale
RN MEDLIN
RC TISSUE
RX MEDLIN
RA Nederg
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     EMBL; X66933; CAA47367.1; -.

HSSP; P15494; BBTV.

INTERPRO; IPR000916; -.

R PFAM; PF00407; Bet_v_I; 1.

R PRINTS; PR00634; BETALLERGEN.

R PROSITE; PS00451; PATHOGENESIS_BETVI; 1.

R PROSITE; PS00451; PATHOGENESIS_BETVI; 1.

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Matches
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"PCR based cloning and sequencing of isogenes encoding the tre
pollen major allergen Car b I from Carpinus betulus, hornbeam.
Mol. Immunol. 29:703-711(1992).

-!- DISEASE: A CAUSE OF TYPE I ALLERGIC REACTIONS IN EUROPE, N
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Carpinus betulus (Hornbeam)
Eukaryota; Viridiplantae; E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-FEB-1995 (Rel. 31, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
MAJOR POLLEN ALLERGEN CAR B 1, ISOFORM 2 (CAR
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INIT_MET 0 BY SIMILARITY.
SEQUENCE 159 AA; 17207 MW; 8DCFB96C680688A6
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PFAM; PF00407; Bet_v_I; 1.

PRINTS; PR00634; BETALLERGEN.

PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
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P15494; 1BTV.
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email to license@isb-sib.ch).
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(Rel. 31,
(Rel. 35,
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Posidae; eurosids I;
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                                                     Multigene family
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.8e-52;
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                                                                                                                                                                                                                                                                                                            Usage
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GVFNYETETTSVIPAARLFKAFILDGDNLFPKVAPQAISSVENIEGNGGPGTIKKISFPE 60

Query Match Best Local Sin Matches 116;

Similarity

Score 619; DB Pred. No. 1.2e Pred. Mismatches

DB 1, 1.2e-46; 22;

0

Gaps

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Length

619; No. 1

Conservative

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RESULT 14
MPA1_CARBE
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Best Local S
Matches 120
 VARIANT
VARIANT
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SEQUENCE
                                                      Allergen;
INIT_MET
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"PCR based cloning and sequencing of isogenes encoding the tre
pollen major allergen Car b I from Carpinus betulus, hornbeam.

Mol. Immunol. 29:703-711(1992).

-!- DISEASE: A CAUSE OF TYPE I ALLERGIC REACTIONS IN EUROPE, N

AMERICA AND USSR.
                                                                                                                                EMBL; X66932; CAA47366.1; -. EMBL; X66918; CAA47357.1; -. HSSP; P15494; IBTV.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Carpinus betulus: (Hornbeam).
Eukaryota; Viridiplantae; Embry
Magnoliophyta; eudicotyledons;
Fagales; Betulaceae; Carpinus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence up
01-NOV-1997 (Rel. 35, Last annotation
MAJOR POLLEN ALLERGEN CAR B 1, ISOFORM
                                                                            PFAM: PF00407; Bet_v_I; 1.
PRINTS; PR00634; BETALLERGEN.
PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
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                                                                                                                                                                                                              use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                      INTERPRO; IPRO00916; -.
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-!- SIMILARITY: BELONGS TO THE BETVI FAMILY OF PATHOGENES
                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE; 92293162.
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Pathogenesis-related protein; Mul

0 0 BY SIMILARITY.

V -> A (IN ISC

62 62 I -> S (IN ISC

62 62 K -> E (IN ISC

132 132 K -> E (IN ISC

159 AA; 17271 MW; 21DCD17A3885
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75.5%;
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otation update)
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                                                                 Multigene
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Query Match
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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97.0	97.3	97.3	97.4	97.7	97.7	97.7	97.7	98.0	98.0	98.7	100.0	Query Match 1
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1 (bases 1 to 483)
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/clone="2227"
/note="obtained by PCR using o
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/db_xref="taxon:3505"
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                                                                                                     Larsen, J.N.

PCR based cloning and s
pollen major allergen B
Unpublished
                                                                                                                                 Betula pendula

Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

euphyllophytes; Spermatophyta; Magnoliophyta; eudicotyledons;

Rosidae; Fagales; Betulaceae; Betula.

1 (bases 1 to 483)
                                                                                                                                                                                                               B.verrucosa
Z80106
Z80106.1 GI
                                                                                                                                                                                                                                   BVZ80106
B.verrucc
                                                         Submitted (06-SEP-1996)
Alle 10-12, Horsholm, DI
                                                                           2 (bases 1 to 48 Larsen, J.N. Direct Submission
                                                                                                                                                                                            Betv1; pollen allergen.
European white birch.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      h 100.0%;
Similarity 100.0%;
80; Conservative (
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IEGNGGPGTIKKISFPEGLPFKYVKDRVDEVDHTNFKYNYSVIEGGPIGDTLEKISNE
IKIVATPDGGSILKISNKYHTKGDHEVKAEQVKASKEMGETLLRAVESYLLAHSDAYN
                                             1 (06-SEP-1996) Larsen
.2, Horsholm, DK-2970,
Location/Qualifiers
/tissue_type="pollen/clone="2301"
                  /organism="Betula pendula"
/db_xref="taxon:3505"
                                                                                                                                                                                                                 GI:1542872
                                       .483
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No. 2
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Denmark
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Best Local
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                                                                                                                                   Sequence
177098
177098.1
                                            and Scheiner, O. Allergens of alder pollen and applications Patent: US 5693495-A 21 02-DEC-1997;
                                                                         1 (bases 1 to 672)
Breiteneder, H., Valenta, R.,
                                                                                              Unclassified
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                                   Location/Qualifiers
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/protein_id="CAB02161.1"
/db_xref="GI:1542873"
/db_xref="SPTREMBL:Q96371"
        organism="unknown"
130 c 158 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /translation="mGVFNYETETTSVIPAARLFKAFILDGDNLFPKVAPQAISSVEN
IEGNGGPGTIKKISFPEGFPFKYVKDRVDEVDHTNFKYNYSVIEGGPIGDTLEKISNE
IKIVATPDGGSILKISNKYHTKGDHEVKAEQVKASKEMRETLLRAVESYLLAHSDAYN
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99.2%;
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Pred. No. 1.4e-124;
0; Mismatches 4;
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Best Local Sim
Matches 474;
                                                                                                                                                                                                                                             MEDLINE
                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                         TITLE
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Birch mRNA for pollo
X15877
X15877.1 GI:17937
                                                                                                                                                                                                                                                      Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; euphyllophytes; Spermatophyta; Magnoliophyta; eudicotyledons; Rosidae; Fagales; Betulaceae; Betula.

1 (bases 1 to 691)

Breiteneder, H., Pettenburger, K., Bito, A., Valenta, R., Kraft, D., Rumpold, H., Scheiner, O. and Breitenbach, M.

The gene coding for the major birch pollen allergen Betv1, is highly homologous to a pea disease resistance response gene EMBO. J. 8 (7), 1935-1938 (1989)
                                                                                                                                                                                                                                                                                                                                                                                                            allergen; BetvI gene; European white birch.
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                                                                                                                                                                                                                               Data
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                                                                                                                                                                                                              kindly reviewed (01-MAY-1990)
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                   /PTOTEIN_id="CAA33887.1"
/PTOTEIN_id="CAA33887.1"
/db_xref="GI:17938"
/db_xref="SWISS-PROT:P15494"
/db_xref="SWISS-PROT:P15494"
/translation="Mevennetettsvipaarlekapilddulepkvapqaissven
/translation="Mevennetettsvipaarlekapilddulepkvapqaissven
IEGNGGPGTIKKISPPEGFPFKYVKGRVDEVDHTNFKYNYSVIEGGPIGDTLEKISNE
IKIVATPDGGSILKISNKYHTKGDHEVKAEQVKASKEMGETLLRAVESYLLAHSDAYN
                                                                                         /note="BetvI allergen (AA
/codon_start=1
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r pollen
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Pred. No. 1.2e-123;
0; Mismatches 6;
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Best Local Similarity
Matches 474; Conserv
                                                                                                                                                        AUTHORS
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                                                                                  N AJ002107.1 GI:2564221

DS Betv1 gene; pollen allergen.

European white birch.

NISM Betula pendula

Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

euphylophytes; Spermatophyta; Magnoliophyta; eudicotyledons; core

eudicots; Rosidae; eurosids I; Fagales; Betulaceae; Betula.

(CE 1 (bases 1 to 483)

Friedd-Hajek,R., Radauer,C., O'Riordain,G.,

Hoffmann-Sommergruber,K., Leberl,K., Scheiner,O. and Breiteneder,H.

New Bet v 1 isoforms including a naturally occurring truncated form

of the protein derived from Austrian birch pollen

NL Mol. Immunol. 36 (10), 639-645 (1999)
                                                                                                                                                                                                                                                                                                                                                                               472
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         Direct Submission
Submitted (17-OCT-1997)
Experimental Pathology,
18-20, A-1090 Vienna, AU
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Betula verrucosa mRNA
at12).
                                                               2 (bases 1 to 483) Friedl-Hajek, R.
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/note="pot.
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Pred. No. 1.2e-123;
0; Mismatches 6;
                      Friedl-Hajek R., Insti
University of Vienna,
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                     Betula pendula
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
                                               major allergen.
European white birch.
euphyllophytes; Spermatophyta;
Rosidae; Fagales; Betulaceae; E
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/db_xref = "taxon: 3505"
/clone="at12"
/tissue_type="pollen"
/dev_stage="mature"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /db_xref="SPTREMBL:024642"
/translation="MGVFNYETETTSVIPAARLFKAFILDGDNLFPKVAPQAISSVEN
IEGMGGPTIKKISFPEGFPFKYKDRVDEVDHTNFKYNYSVIEGGPMGDTLEKISNE
IKIVATPDGGSILKISNKYHTKGDHEVKAEQVKASKEMGETLLRAVESYLLAHSDAYN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /product="pollen allergen
/protein_id="CAA05187.1"
/db_xref="GI:2564222"
                                                                     GI:1321711
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. No. 3.3e-123;
ismatches 7;
            Magnoliophyta;
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Submitted (29-APR-1996) Hoffmann-Sommergruber K., Universions Vienna, Austria, Gen. & Exp. Pathology, Waehringer
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18-20, Vienna, Austria, A-1090
2 (bases 1 to 483)
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/translation="MGVFNYETEATSVIPAARLFKAFILDGDNLFPKVAPQAISSVEN
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IKIVATPDGGSILKISNKYHTKGDHEVKAEQVKASKEMGETLLRAVESYLLAHSDAYN
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/clone="BVGC11"
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Perreira,F., Scheiner,O. and Breiteneder,H.
Genomic characterization of members of the Bet v
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                                       GTTGAAAACATTGAAGGAAATGGAGGGCCTGGAACCATTAAGAAGATCAGCTTTCCCGAA
                                                                             gttgaaaacattgaaggaaatggaagggcctggaaccattaagaagatcagctttcccgaa
                                                                                                           GCCTTTATCCTTGATGGCGATAATCTCTTTCCAAAGGTTGCACCCCAAGCCATTAGCAGT
                                                                                                                     gcctttatccttgatggcgataacctctttccaaaggttgcaccccaagccattagcagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Direct Submission
Submitted (06-SEP-1996) Larsen J.N., ALK
Alle 10-12, Horsholm, DK-2970, Denmark
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  280098.1 GI:1542856
Betv1; pollen allergen.
European white birch.
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B.verrucosa mRNA
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                                                                                                                                                                                                                                                                  /product="pollen allergen Bet v 1"
/protein_id="CAB02153.1"
/db_xref="GI:1542857"
/db_xref="SWISS-PROT:P15494"
/tanslation="MCVENYEFETTSVIPAARLFKAFILDGDNLFPKVAPQAISSVEN
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IKIVATPDGGSILKISNKYHTKGDHEVKAEQVKASKEMGETLLRAVESYLLAHSDAYN
                                                                                                                                                                                                                                                                                                                                                                    /tissue_type="pollen obtained/
clone="224"
                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                     /codon_start=
                                                                                                                                                                                                                                                                                                                                                          note="obtained by PCR using cDNA as
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/db_xref="taxon:3505"
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                                               gagataaagatagtggcaacccctgatggaggatccatcttgaagatcagcaacaagtac
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                                                                                                                                                                                TACAATTACAGCGTGATCGAGGGCGGTCCCCATAGGCGACACATTGGAGAAGATCTCCAAC
                                                                                        GAGATAAAGATAGTGGCAACCCCTGATGGAGGATCCATCTTGAAGATCAGCAACAAGTAC
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gagacacttttgagggccgttgagagctacctcttggcacactccgatgcctacaactaa
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Unclassified.

1 (bases 1 to 480)
Breiteneder, H., Valenta, R., Breitenbach, M., and Scheiner, O.
Allergens of alder pollen and applications Patent: US 5633495-A 22 02-DEC-1997;
Location/Qualifiers
                                                                              Breitenbach, M., Kraft, D.,
                                                                                                                                                                                                                                       03-APR-1998
                                                                              Rumpold, H.
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                                                                                                                                                                                ggtgtgtttaattatgagactgagaccacctctgttatcccagcagctcgactgttcaag
                                     tacaattacagcgtgatcgagggcggtcccataggcgacacattggagaagatctccaac
                         GGCTTCCCTTTCAAGTACGTGAAGGACAGAGTTGATGAGGTGGACCACACAAACTTCAAA
                                                                                                                                                                                                                      al Similarity
472; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (17-OCT-1997) Friedl-Hajek Experimental Pathology, University of 18-20, A-1090 Vienna, AUSTRIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; euphyllophytes; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids I; Fagales; Betulaceae; Betula
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Betvl gene; pollen allergen.
European white birch.
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Betv1 gene;
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                                                                                                                                                                                                                                                                                                                             /db_xref="Sptrembl:023752"
/translation="MGVFNYETETTSVIPAARLFKAFILDGDNLVPKVAPQAISSVEN
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                                                                                                                                                                                                                                                                                                                                                                 /product="pollen allergen Betv1"
/protein_id="CAA05188.1"
/db_xref="GI:2564224"
                                                                                                                                                                                                                                                                                                                                                                                                                                                  /gene="Betvl"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Betula pendula"
/db_xref="taxon:3505"
/clone="at15"
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                                                                                                                                                                                                                                                                                                                                                                                                      /codon_start=
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/dev_stage="mature"
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f Vienna, Waehringer Guertel
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                                                                                                                                                                   Query Match
Best Local Similarity
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Submitted (06-SEP-1996) Larsen
Alle 10-12, Horsholm, DK-2970,
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Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
euphyllophytes; Spermatophyta; Magnoliophyta; eudicotyledons;
Rosidae; Fagales; Betulaceae; Betula.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            pollen major allergen
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len major allergen Bet v 1 from Betula verrucosa, white birch
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                                                                                                                                                       Conservative
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TEGNGGPGTIKKISFÞEGFÞFKYVKDRVDEVDHTNFKYNYSVIEGGPIGDTLEKISNE
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Pred. No. 9.3e-123;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Friedl-Hajek,R.

Direct Submission

Submitted (17-CCT-1997) Friedl-Hajek R., Institute of General and Experimental Pathology, University of Vienna, Waehringer Guertel 18-20, A-1090 Vienna, AUSTRIA Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Betv1 gene; pollen allergen.
European white birch.
Betula pendula
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99437514
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1 (bases 1 to 483)
1 (bases 1, Radauer, C., O'Riordain, G., Priedl-Hajek, R., Pri
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                                                                                  /translation="mGVFNYETETTSVIPAARLFKAFILDGDNLFPKVAPQAISSVEN
IEGNGGPGTIKKISFPEGFPFKYVKDRVDEVDHTNFKYNYSVIEGGPMGDTLEKISNE
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                                                                                                                                                                                                                                             /note="isoform
/codon_start=1
                                                                                                                                                                                                                                                                                                                                                                         /tissue_type="pollen"
/dev_stage="mature"
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/db_xref="taxon:3505"
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                                                                                                                                                                 Direct Submission
Direct Submission
Submitted (10-JUN-1998) Friedl-Hajek R., Institute of General amount of Vienna, Waehringer Guertel
                                                                                                                                                                                                                                                                                                                                                                                                                                    AJUU6906.1 GI:4006948
Betv1 gene; pollen allergen.
European white birch.
Betula pendula
Enlerrore
                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; euphyllophytes; Spermatophyta; Magnollophyta; eudicotyledons; core eudicots; Rosidae; eurosids I; Fagales; Betulaceae; Betula.

1 (bases 1 to 483)
1 (bases 1, Radauer, C., O'Riordain, G., and Breiteneder H
                                                                                                                                                                                                                                                                                    Friedl-Hajek,R., Radauer,C., O'Riordain,G., Hoffmann-Sommergruber,K., Leberl,K., Scheiner,O. and New Bet v I isoforms including a naturally occurring of the protein derived from Austrian birch pollen Mol. Immunol. 36 (10), 639-645 (1999)
                                                                                                                                                              Experimental Pathology, University 18-20, A-1090 Vienna, AUSTRIA
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                                                            /db_xref="taxon:3505"
/dev_stage="mature"
/tissna + ........."
/gene="betv1"
                                        /note="from Austrian
                                                                                                                                               Location/Qualifiers
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98.1%;
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Pred. No. 2.7e-122;
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RESULT 1
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TITLE
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Best Local Sin
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            Direct Submission
Submitted (06-SEP-1996)
Alle 10-12, Horsholm, DR
                                                                                                                                   Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; euphyllophytes; Spermatophyta; Magnoliophyta; eudicotyledons; Rosidae; Fagales; Betulaceae; Betula.
                                                                                                                                                                      Betv1; pollen allergen.
European white birch.
Betula pendula
                                                                                                                                                                                                                      B.verrucosa mRNA
Z80105
                                                                                                                                                                                                                                               BVZ80105
                                                                                   PCR based cloning and pollen major allergen
                                                                                                                                                                                                          Z80105.1 GI:1542870
                                                                         Unpublished
                                                                                                             Larsen,J.N.
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71; Conservative
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                                                             (bases 1 to 483)
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(06-SEP-1996) Larsen
2, Horsholm, DK-2970,
Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /product="pollen allergen
/protein_id="CAA07321.1"
/db_xref="GI:4006949"
                                                                                                                       1 to 483)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /gene="betv1"
/codon_start=1
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Pred. No. 2.7e-122;
0; Mismatches 9;
                                                                                     sequencing of Bet v 1 from 1
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Betula verrucosa, v
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2229).
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                                 Betula pendula Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheopeuphyllophytes; Spermatophyta; Magnoliophyta; eudicotyledons; Rosidae; Fagales; Betulaceae; Betula.

1 (bases 1 to 483)
                                                                                                                       B.verrucosa
Z80101
                                                                                                                                            BVZ80101
Larsen, J.N.
PCR based cloning and pollen major allergen
                                                                                       European white birch.
                                                                                                Betv1; pollen allergen.
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/db_xref="Sptrembl:Q96370"
/taanslation="MGVENVETETTSVIPAARLEKAEILDGDNLVPKVAPQAISSVEN
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IKIVATPDGGSILKISNKYHTKGDHEVKAEQVKASKEMGETLLRAVESYLLAHSDAYN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /product="pollen allergen
/protein_id="CAB02160.1"
/db_xref="GI:1542871"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Betula pendula"
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/tissue_type="pollen obtained
/clone="2229"
                                                                                                             GI:1542862
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2 (bases 1 to 483)
Larsen,J.N.
Direct Submission
Submitted (06-SEP-1996) Larsen J.N., ALK A/S, ALK Research, Alle 10-12, Horsholm, DK-2970, Denmark
Location/Qualifiers
483
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Search completed: December 11, Job time: 21053 sec

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US-08-363-010-2

US-08-199-219-5

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US-08-13-14

US-08-728-956-1

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RESULT 1 US-07-847-010-21 Sequence 21, Applicati Patent No. 5693495 GENERAL INFORMATION: APPLICANT: Breiten APPLICANT: Walenta APPLICANT: Walenta APPLICANT: Kraft, APPLICANT: Kraft, APPLICANT: Kraft, APPLICANT: Scheiner APPLICANT: Scheiner APPLICANT: Scheiner APPLICANT: Ferreir FITLE OF INVENTION: NUMBER OF SEQUENCES CORRESPONDENCE ADDR APPLICATE: New YORK STATE: New YORK STATE: New YORK COUNTRY: U.S.A. ZIP: 10036-2711 COMPUTER: IBM PC OPERATION SYSTEM: SOFTWARE: Patent CURRENT APPLICATION APPLICATION APPLICATION NUMBER FILING DATE: 01- CLASSIFICATION NUMBER REFERENCE/DOCKET FILING DATE: (212) TELEPHONE: (212) TELEPHONE: (212) TELEPHONE: G6141 PEN INFORMATION FOR SEQ I SEQUENCE CHARACTERI LENGTH: 672 base TYPE: nucleic ac STRANDENESS: 11near	29.6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
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US-07-847-010-22

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ANTI-SENSE: NO
ORIGINAL SOURCE:
OPGANISM: birch (Betula s)
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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APPLICANT: Ferreira, Fatima
TITLE OF INVENTION: Allergens of Alder Pollen
TITLE OF INVENTION: Applications Thereof
NUMBER OF SEQUENCES: 23
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                         STREET: 1155 Ave
CITY: New York
STATE: New York
COUNTRY: U.S.A.
ZIP: 10036-2711
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                                                                                          ADDRESSEE:
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                                                                           1155 Avenue of the Americas
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                                                                                                                                                                                  Rumpold, Helmut
Scheiner, Otto
                                                                                                                                                                                                           Breitenbach, Michael
Kraft, Dietrich
                                                                                                                                                                                                                                                Breiteneder, Heimo
Reikerstorfer, Arnold
Valenta, Rudolf
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                                                                                          Pennie & Edmonds
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Pred. No. 3.2e-143;
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SOFTWARE: Patentin Release #1.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/847.0
FILING DATE: 01-JUN-1992
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Jones III, Harry C
REGISTRATION NUMBER: 20,280
REFERENCE/DOCKET NUMBER: 6530-0
REFIGENOME: (212) 790-9090
RELEFAX: (212) 869-9741/8864
TELEEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 22:
SEQUENCE CHARACTERISTICS:
LENGTH: 480 Dase pairs
TYPE: DUCLERC STICK
                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 471; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE: c
HYPOTHETICAL: NO
ANTI-SENSE: NO
ORIGINAL SOURCE:
ORGANISM: birc
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LIBRARY: POLLE
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STRANDEDNESS: single
TOPOLOGY: linear
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                                      cacaccaaaggtgaccatgaggtgaaggcagagcaggttaaggcaagtaaagaaatgggc 420
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GCCTTTATCCTTGATGGCGATAATCTCTTTCCAAAGGTTGCACCCCAAGCCATTAGCAGT 123
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SYSTEM: PC-DOS/MS-DOS
PatentIn Release #1.0,
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98.78;
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Pred. No. 2.5e-142;
0; Mismatches 6;
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RESULT 3
US-07-847-010-1
; Sequence 1, Application
; Patent No. 5693495

GENERAL INFORMATION:

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; ORGANISM: Alder (Alnus sp.)
US-07-847-010-1
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: Jones III, Harry C
REGISTRATION NUMBER: 20,280
REFERENCE/DOCKET NUMBER: 653
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
TELEFAX: (212) 869-9741/8864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIA RELEASE #1.0, Version #1.25
CURRENT APPLICATION DATA:
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MEDIUM TYPE: Floppy disk
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HYPOTHETICAL: 1
ANTI-SENSE: NO
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LENGTH: 665 base pairs
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TITLE OF INVENTION: Allergens of Alder Pollen and
TITLE OF INVENTION: Applications Thereof
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: FILING DATE: 01-JUN
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                                                                                                       tacaattacagcgtgatcgagggcggtcccataggcgacacattggagaagatctccaac
                                             GCCTTTATCCTTGATGGCGATAAGCTCCTTCCAAAGGTTGCACCTGAAGCTGTTAGCAGT
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                                                             GGTGTTTTCAATTACGAAGCGGAAACCCCCTCCGTTATCCCCAGCGGCTCGGCTGTTCAAG
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Kraft, Dietrich
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Ebner, Christof
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Valenta, Rudolf
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                                                                                                                                                                                                                                                                                       78.0%; Score 374.4; DB 2; 86.2%; Pred. No. 4.3e-112; Live 0; Mismatches 66;
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RESULT 4
US-07-847-010-2
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                                                                                                                                                                         TELEPHONE: (212) 790-9090
TELEFAX: (212) 869-9741/8864
TELEX: 65141 PENNIE
INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                  ORIGINAL SOURCE:
                                  HYPOTHETICAL: I
                                                                                                                                                                                                                                           TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
NAME: Jones III, Harry C
                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
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TITLE OF INVENTION: Allergens of Alder Pollen and
TITLE OF INVENTION: Applications Thereof
NUMBER OF SEQUENCES: 23
                                                                   MOLECULE TYPE:
                                                                                                                                                       SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/0 FILING DATE: 01-JUN-1992 CLASSIFICATION: 435
                                                                                                                                                                                                                                                              REGISTRATION NUMBER: 20,280
REFERENCE/DOCKET NUMBER: 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CITY: New York
                                                                                       TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET:
ORGANISM: Alder (Alnus sp.)
                                                                                                      STRANDEDNESS: single
                                                                                                                                       LENGTH:
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10036-2711
                                                                                                                    nucleic acid
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                                                                                                                                       480 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1155 Avenue of the Americas
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Scheiner, Otto
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                                                                                     linear
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Query Match Best Local Similarity

77.4%; 86.2%;

Score 371.4; DB 2; Pred. No. 3.4e-111;

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RESULT 5
US-07-847-010-15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: Eloppy disk
COMPUTER: IBM PC compatible
COMPUTER: BM PC compatible
COMPUTER: BM PC compatible
COMPUTER: PATENT RELEASE #1.0, Version
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/847,010
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                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
APPLICANT:
                CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Jones III, Harry C
REGISTRATION NUMBER: 20,280
                                                                                                                                                                                                                                                                                               TITLE OF INVENTION: Allergens of TITLE OF INVENTION: Applications NUMBER OF SEQUENCES: 23
                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: APPLICANT:
                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS
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CITY: New York
STATE: New York
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                                                                                                                                                                                             COUNTRY: U.S.A. ZIP: 10036-2711
    REFERENCE/DOCKET
                                                                           FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             64
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1155 Avenue of the Americas
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Breitenbach, Michael
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Ebner, Christof
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                                                                        01-JUN-1992
    NUMBER:
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    6530-010
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                                                                                                                                                             Sequence 16, Application Patent No. 5693495 GENERAL INFORMATION:
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Best Local Similarity
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TELEFAX: (212) 869-9741/8864
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
LENGTH: 655 base pairs
                            APPLICANT:
APPLICANT:
APPLICANT:
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APPLICANT:
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ORGANISM: hazel
IMMEDIATE SOURCE:
LIBRARY: POLLEN
 APPLICANT:
TITLE OF I
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HYPOTHETICAL: NO
ANTI-SENSE: NO
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TYPE: nucleic acid
STRANDEDNESS: single
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      401;
    INVENTION:
             Ebner, Chr
Ferreira,
                                                                        Breitenbach, Michael
Kraft, Dietrich
                                           Scheiner, Otto
                                                        Rumpold, Helmut
                                                                                                     Hoffmann - Sommergruber,
                                                                                                                   Valenta, Rudolf
                                                                                                                                  Breiteneder, Heimo
Reikerstorfer, Arnold
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, Fatima
Allergens
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   of Alder Pollen and
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ENGELHOLM,
SWEDEN
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Score 353.6; DB 2;
Pred. No. 2.4e-105;
0; Mismatches 79;
  Indels
                   Length
                     655;
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Gaps
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TITLE OF INVENTION:

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:
NAME: Jones III, Harry C
REGISTRATION NUMBER: 20,280
REFERENCE/DOCKET NUMBER: 6530-
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
TELEPAX: (212) 869-9741/8864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE: C
HYPOTHETICAL: NO
ANTI-SENSE: NO
ORIGINAL SOURCE:
ORGANISM: haze
                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/0:
FILING DATE: 01-JUN-1992
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
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C'TY: New York
'You' Yor'
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 364
                                                                                                                         241 tacaattacagcgtgatcgagggcggtcccataggcgacacattggagaaagatctcccaac
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                                                                                                                                                                                                                                                                         Local Similarity
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              cacaccaaaggtgaccatgaggtgaaggcaggcaggttaaggcaagtaaagaaatgggc
                                                                  TACAGCTACACCGTGATCGAGGGTGATGTCCTGGGTGACAAGCTGGAGAAGGTCTGCCAC
                                                                                                                                                                GGCAGCCGTTACAAGTACGTGAAGGAGAGGGTTGATGAGGTTGACAACACAAACTTCACA
CACGCCAAAGGTGACCATGAGATTAATGCAGAGGAGGATGAAGGGTGCCAAAGAAATGGCC
                                                   GAGCTGAAGATAGTGGCAGCCCCTGGTGGAGGATCCATCTTGAAGATCAGCAGCAAGTTC
                                                                                                                                                                                                                                                                                                                                                                                        398;
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10036-2711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  nucleic acid
EDNESS: single
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1155 Avenue of the I
                                                                                                                                                                                                                                                                                                                                                                                       Conservative
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83.4%;
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Pred. No. 1.9e-104;
0; Mismatches 79;
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                                                           Matches
                                                                         Query Match
Best Local Similarity
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Patent No.
                                                                                                                                                                                                                                                                                                                                 TELEX: 66141 PENNIE INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                        MOLECULE TYPE:
HYPOTHETICAL: N
ANTI-SENSE: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/847,010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                               ORIGINAL SOURCE: ORGANISM: haz
                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
LENGTH: 742 base pairs
                                                                                                                                                                                                                                                                                                                                                                          TELEPHONE: (212) 790-9090
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NAME: Jones III, Harry C
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MEDIUM TYPE: Floppy disk
                                                                                                                                                                 IMMEDIATE SOURCE:
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STATE: New Yor
                                                                                                                                                     LIBRARY:
                                                                                                                                                                                                                                                         TOPOLOGY:
                                                                                                                                                                                                                                                                      STRANDEDNESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE: 01-JUN-1992 CLASSIFICATION: 435
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               1 ggtgtgtttaattatgagactgagaccacctctgttatcccagcagctcgactgttcaag
 GGTGTTTTCAATTACGAGGTTGAGACTCCCTCCGTTATCCCAGCGGCAAGGCTGTTCAAG
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                                                           Conservative
                                                                                                                                                   POLLEN FROM ALLERGON AB, ENGELHOLM, SWEDEN
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Scheiner, Otto
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Kraft, Dietrich
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82.9%;
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                                                                        Score 348.8; DB 2;
Pred. No. 9.1e-104;
                                                           Mismatches
                                                                                         DB 2;
                                                          Indels
                                                                                      Length
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                TELEPAX: (212) 869-07
TELEZAX: (66141
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Patent No. 5693495
                                                                                                                 ZIP: 10036-2711

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: LBM PC compatible
OPERATING SYSTEM: PC-DCS/MS-DOS
SOFTWARE: PatentIn Release #1.0, V
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/847,010
FILING DATE: 01-UN-1992
CLASSIFICATION: 435
                   TELEX: 66141 PENNIE INFORMATION FOR SEQ ID NO:
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APPLICANT:
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APPLICANT:
          SEQUENCE CHARACTERISTICS:
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CITY: New York
STATE: New Yor
                                                                                                                                                                                                                  COUNTRY: U.S.A. ZIP: 10036-2711
LENGTH:
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Valenta, Rudolf
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                                                                                                                                                             Release #1.0,
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TOPOLOGY: linear

MOLECULE TYPE: cDNA

HYPOTHETICAL: NO
ANTI-SENSE: NO
ORIGINAL SOURCE:
ORGANISM: hazel (Corylus sp.)
IMMEDIATE SOURCE:
LIBRARY: POLLEN FROM ALLERGON AI
US-07-847-010-13
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US-07-847-010-9
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Best Local Similarity
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                                                       APPLICANT: Ferreira, Fatima
TITLE OF INVENTION: Allergens of Alder Pollen
TITLE OF INVENTION: Applications Thereof
NUMBER OF SEQUENCES: 23
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APPLICANT:
                                           CORRESPONDENCE ADDRESS:
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ADDRESSEE: Pennie & STREET: 1155 Avenue CITY: New York
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STRANDEDNESS:
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                                                                                                                                                             Breitenbach, Michael
Kraft, Dietrich
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                                                                                                                                                 Rumpold, Helmut
                                                                                                                  Ebner, Christof
                                                                                                                                Scheiner, Otto
                                                                                                                                                                                            Hoffmann - Sommergruber,
                                                                                                                                                                                                                                      Breiteneder, Heimo
                                                                                                                                                                                                         Valenta, Rudolf
                                                                                                                                                                                                                      Reikerstorfer,
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single
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82.8%;
             Edmonds
of the Americas
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Best Local Similarity
Matches 396; Conserv
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TELEFAX: (212) 869-9
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/07/847
FILING DATE: 01-UN-1992
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Jones III, Harry C
REGISTRATION NUMBER: 20,280
REFERENCE/DOCKET NUMBER: 6530
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE:
HYPOTHETICAL: N
ANTI-SENSE: NO
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LIBRARY: POITE - PATTO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION DATA:
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121 gttgaaaacattgaaggaaatggaggcctggaaccattaagaagatcagctttcccgaa 180
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OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH:
                                                                                                                                               gagataaagatagtggcaacccctgatggaggatccatcttgaagatcagcaaccaagtac
                                                                                                                                                                                                                                                                                                                                                                                                           cacaccaaaagtgaccatgaggtgaaggcaggcaggttaaggcaagtaaagaaatgggc
                                                                                                                                GAGCTGAAGATAGTGGCAGCCCCTGGTGGAGGATCCATCTTGAAGATCAGCAGCAAGTTC
                                                                                                                                                                                              TACAGCTACACCGTGATCGAGGGTGATGTCCTGGGTGACAAGCTGGAGAAGGTCTGCCAC
                                                                                                                                                                                                                  tacaattacagcgtgatcgagggcggtcccataggcgacacattggagaagatctccaac
                                                                                                                                                                                                                                                                              CACGCCAAAGGCGACCATGAGATTAATGCAGAGGAGATGAAGGGTGCCAAAGAAATGGCA
                                                                                                                                                                                                                                                             GGCAGCCGTTACAAGTACGTGAAGGAGGGGTTGATGAGGTTGACAACAACTTCACA
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10036-2711
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (212) 790-9090
(212) 869-9741/8864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
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82.5%;
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Pred. No. 9.1e-103;
0; Mismatches 84;
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                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                                                                                                                                 Matches
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TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                      MOLECULE TYPE:
HYPOTHETICAL: N
ANTI-SENSE: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                           ORGANISM: haze IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
LENGTH: 860 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE/DOCKET NUMBER: 65
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                        ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION:
NAME: Jones III, Harry C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS:
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124
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                                                                                                                                                                                                                                                                                                                                                                                                   STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: (212) 790-9090
TELEFAX: (212) 869-9741/8864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/0 FILING DATE: 01-JUN-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STREET: 1155 A
CITY: New York
STATE: New Yor
                                                                                                                   LIBRARY:
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                gttgaaaacattgaaggaaatggagggcctggaaccattaagaagatcagctttcccgaa 180
GTTGAAAACGTTGGAGGAAATGGAGGGCCTGGAACCATCAAGAATATCACCTTTGGCGAA
                                                           TCCTATGTCCTTGATGGCGATAAGCTCATCCCAAAGGTTGCACCTCAAGCTATTACCAGC 123
                                                                         gcctttatccttgatggcgataacctctttccaaaggttgcaccccaagccattagcagt 120
                                                                                                                                                                                 395;
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10036-2711
                                                                                                                                                                                                                                                                                                                                                                                                                nucleic acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                 860 base pairs
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Ferreira, Fatima
VENTION: Allergens of Alder Pollen and
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Kraft, Dietrich
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NO
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82.3%;
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                                                                                                                                                                            Score 344; DB 4,
Pred. No. 3.6e-102;
"" ematches 85;
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RESULT 11
US-07-847-010-10
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                                                                                                                                                                                                                                                               COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, V
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/847,010
FILING DATE: 01-JUN-1992
CLASSIFICATION: 435
                                                                                                                                 TELEX: 66141 PENNIE INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
NAME: JONES III, Harry C
REGISTRATION NUMBER: 20,280
REFERENCE/DOCKET NUMBER: 65:
TELECOMMUNICATION INFORMATION:
ORIGINAL
                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                  ANTI-SENSE:
                            HYPOTHETICAL:
                                                                                                                  SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION: Allergens of TITLE OF INVENTION: Applications NUMBER OF SEQUENCES: 23
                                       MOLECULE TYPE:
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                                                                                                                                                                                                                                                                                                                                                                                             STREET: 1155 Avenue of the Americas CITY: New York STATE: New York COUNTRY: U.S.A. ZIP: 10036-2711
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                                                            TOPOLOGY:
                                                                        STRANDEDNESS:
                                                                               LENGTH: 480 base pairs
TYPE: nucleic acid
                                                                                                                                                              TELEFAX:
                                                                                                                                                                          TELEPHONE:
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    SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Application US/07847010
                                                                                                                                                              E: (212) 790-9090
(212) 869-9741/8864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ebner, Christof
Ferreira, Fatima
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Valenta, Rudolf
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RESULT 12
US-07-847-010-19
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Best Local
                                                                                                                                                                APPLICANT: Ebner, Ch
APPLICANT: Ferreira
TITLE OF INVENTION: I
TITLE OF INVENTION: I
                                 ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                APPLICANT:
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                                                                                                                                                   CORRESPONDENCE ADDRESS:
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IMMEDIATE SOURCE:
LIBRARY: POLLEN FROM ALLERGON
                                                                                                                                                                                                                                        APPLICANT:
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                                                                                              STREET: 1155 Av
CITY: New York
STATE: New York
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             COMPUTER:
OPERATING
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                                                                    COUNTRY: U.S.A. ZIP: 10036-2711
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5. 5693495
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                                                                                              New York
                                                                                                                     1155 Avenue of the Americas
           IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
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Ferreira, Fatima
VENTION: Allergens of Alder Pollen
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PatentIn Release #1.0,
                                                                                                                                        Pennie & Edmonds
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82.4%;
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Pred. No. 7.4e-102;
0; Mismatches 84;
Version
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US-08-363-010-3
; Sequence 3, Application US/08363010
; Patent No. 5512484
; GENERAL INFORMATION:
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Best Local Similarity
Matches 392; Conserv
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TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: cDI
HYPOTHETICAL: NO
ANTI-SENSE: NO
ORIGINAL SOURCE:
APPLICANT: Yamamoto, Mika
APPLICANT: Oheda, Kenji
TITLE OF INVENTION: CARROT 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: hazel (Corylus sp.)
IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE/DOCKET NUMBER: 653
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
TELEFAX: (212) 869-9741/8864
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TYPE: nucleic acid
STRANDEDNESS: single
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME: Jones III, Harry C
REGISTRATION NUMBER: 20,280
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/0 FILING DATE: 01-JUN-1992
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Pred. No. 2.5e-101;
0; Mismatches 85;
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   PROTEIN,
   GENE CODING
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SEQUENCE CHARACTERISTICS:
LENGTH: 739 base pairs
TYPE: nucleic acid
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HYPOTHETICAL:
ANTI-SENSE: NO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATTORNEY/AGENT INFORMATION
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NUMBER OF SEQUENCES:
395
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ORGANISM: Kuroda Gosun
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OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET: 8110 Gatch
CITY: Falls Church
STATE: Virginia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: (703) 205-8050
TELEX: 248345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME: Svensson, Leonard R. REGISTRATION NUMBER: 30,330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/08/363,010 FILING DATE: 23-DEC-1994
                                                                                                                                                                                                                                                                                                                                                                                                                       22 gagaccacctctgttatcccagcagctcgactgttcaaggcctttatccttgatggcgat 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEPHONE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY: UZIP: 22042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
                gtgaaggcagagctaaggcaagtaaagaaatgggcgagacacttttgagggccgtt
|| | || | | | | | | | | | |
                                                                                 cctgatggaggatccatcttgaagatcagcaacaagtaccacccaaaggtgaccatgag
                                                                                                                                                                                                             aaggacagagttgatgaggtggaccacaaacttcaaattacaattacagcgtgatcgag
                                                                                                                                                                                                                                                                                                                                            aacctctttccaaaggttgcaccccaagccattagcagtgttgaaaacattgaaggaaat 141
GTTCCTGAGGAGAACATCAAGTTTGCAGATGCTCAGAACACTGCTCTTTTCAAGGCTATT
                                                             GCTGACGGAGGTAGCATTACCAAGACCACTGCCATATTCCACACCCAAAGGCGATGCCGTG
                                                                                                                             GGAGACATCCTTCTAGAATTCATCGAATCCATTGAAACCCATATGGTAGTTGTGCCAACT
                                                                                                                                                       ggcggtcccataggcgacacattggagaagatctccaacgagataaagatagtggcaacc
                                                                                                                                                                                            ACGGTTAGGACTGATGCAGTGAACAAGGAGGCCTTGACATACGATTCCACAGTCATTGAT
                                                                                                                                                                                                                                                            GGTGGAGCTGGAACCGTCAGAATTATCACCCTTCCCGAAGGTAGCCCCAATCACCTCAATG
                                                                                                                                                                                                                                                                             ggagggcctggaaccattaagaagatcagctttcccgaaggcctccctttcaagtacgtg
                                                                                                                                                                                                                                                                                                                                                                                          GAGATCACTTCTTCAGTCTCCGCAGAGAAAATATTCAGCGGCATTGTCCTTGATGTTGAT 97
                                                                                                                                                                                                                                                                                                                           ACAGTTATTCCCAAGGCTGCCCCCGGAGCTTACAAGAGTGTCGATG---TTAAAGGAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        E: Birch, Stewart,
8110 Gatehouse Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
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56.9%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 128; DB 1;
Pred. No. 3.6e-32;
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ad, Suite
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches 190;
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500 East
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
NAME: Svensson, Leonard R.
REGISTRATION NUMBER: 30,330
REFERENCE/DOCKET NUMBER: 20-3628P
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 205-8000
TELEFAX: (703) 205-8050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                MOLECULE TYPE: cD
                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 465 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                      ANTI-SENSE: NO ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: PatentIn Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                               HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELLEFAX: (,, TELLEFAX: 248345
202
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Ombain: Kuroda Gosun
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                                                                                                              85
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                                                                                                                                                                                                                                                                                                                                                                                                         STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDIUM TYPE:
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ACGGTTAGGACTGATGCAGTGAACAAGGAGGCCTTGACATACGATTCCACAGTCATTGAT
             aaggacagagttgatgaggtggaccacacaaacttcaaattacaattacagcgtgatcgag
                                                                     ggagggcctggaaccattaagaagatcagctttcccgaaggcctccctttcaagtacgtg
                                                                                                                             aacctctttccaaaggttgcaccccaagccattagcagtgttgaaaacattgaaggaaat
                                                                                                                                                                    GAGATCACTTCTTCAGTCTCCGCAGAGAAAATATTCAGCGGCATTGTCCTTGATGTTGAT
                                                                                                                                                                                   gagaccacctctgttatcccagcagctcgactgttcaaggccttttatccttgatggcgat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGTGGAGCTGGAACCGTCAGAATTATCACCCTTCCCGAAGGTAGCCCAATCACCTCAATG
                                                                                                           ACAGTTATTCCCAAGGCTGCCCCCGGAGCTTACAAGAGTGTCGATG---TTAAAGGAGAC
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Y: U.S.A.
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                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Oheda, Kenji
                                                                                                                                                                                                                                                                                                                          Daucus carota
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                                                                                                                                                                                                                                                                                                                                                                                             linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
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57.0%;
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                                                                                                                                                                                                                       Score 126.8; DB 1;
Pred. No. 6.9e-32;
0; Mismatches 187;
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                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO:1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DANIEL A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Patent No. 5312912
APPLICANT: HADWIGER,
                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/
FILING DATE: 13-JUN-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: PROCEDURES AND REGULATORY DNA SEQUENCES
                                                               1610
                                                                                                                              1550
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                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 2290
                                                                                                                                                                                                                                                                                                                                   Local Similarity
                   gagggccgttgagagctacctcttggcacactccgatgcctacaactaa
                                                                                                                                            agtggcaacccctgatggaggatccatcttgaagatcagcaacaagtaccaccaccaaagg 371
                                                                                                                                                                                                        cgtgatcgagggcggtcccataggcgacacattggagaagatctccaacgagataaagat 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cctgatggaggatccatcttgaagatcagcaaccaagtaccacaccaaaggtgaccatgag
                                                                             tgaccatgaggtgaaggcagggttaaggcaagttaaaggaaatgggcgagacactttt 431
                                                                                                                          gtctgcaggaccaaatggaggatccattgcaaagctgagtgtgaaatattataccaaagg
                                                                                                                                                                                      catagttggaggtgttggacttccggacacagttgagaagatctcgtttgaggctaaatt 1549
                                                                                                                                                                                                                                                     caagtatgtgttacacaaagtggagttagtagatgatgctaactgggcaaacaactacag 1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAGGCCTACCTCATTGCTAATT 463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gagagctacctcttggcacact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCTGACGGAGGTAGCATTACCAAGACCACTGCCATATTCCACACCAAAGGCGATGCCGTG
caaggctcttgaaggttactgtgtggctaatcctgattacaactaaaaa
                                                             tgatgctattcctagtgaagaggaaatcaagaatggcaaagccaaaggtgaaggtatttt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTTCCTGAGGAGAACATCAAGTTTGCAGATGCTCAGAACACTGCTCTTTTCAAGGCTATT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGAGACATCCTTCTAGAATTCATCGAATCCATTGAAACCCATATGGTAGTTGTGCCAACT
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                                                                                                                                                                                                                                                                                                                       163;
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56.4%;
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                                                                                                                                                                                                                                                                                                                    Score 87.4; DB 7;
Pred. No. 9.7e-19;
0; Mismatches 126;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CHIN C.; HOROVITZ,
                                                                                                                                                                                                                                                                                                                                                  Length 2290;
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Search completed: December 11, 2000, 15:57:10 Job time: 19997 sec

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Title:
Perfect score:
Sequence:
                                                                                                          Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 2000000000
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prr_65:*
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Gapop 10.0 , Gapext 0.5
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	TO CHICKE PLACE	1	i			
מאם אם	hypothetical prote	S20518	58 2	'n	381	
	pathogenesis-relat	S42650	58	46.6 1	382	
Qy 61 c	pathogenesis-relat	T06527	58 2	47.1 1	386	
	stress response ge	T09526	57 2		415.5	
Db 2 0	pathogenesis-relat	T09659	57 2	51.3 1	420.5	
_	MalD1 protein - ap	S51119	53 2		447.5	
Qy 1 6	major allergen Mal	JC4276	159 2	. 00	465.5	
	major allergen Mal	T17004	159 2	.7	505.5	
Matches		T17007	60 2		530	
Best Loca	allergen	T17006	60 2		534	
Query Mat	major allergen Mal	T17005	160 2	66.5 1	545	
	major allergen Cor	S30056	160 2		601	
	gene 1-Sc3 protein	S47249	160 2		612	
F;2-160/Pro	major allergen Cor	\$30053	2	•	615	
C; Keywords:	major allergen Cor	S30055	50 2		621	
C;Superfami	major allergen Cor	S30054	50 2		621	
C; Comment:	1 Sc2	S47251	159 2	œ	703	
A; Note: the	gene 1-Sc1 protein	S47250	50 2	·w	707	
A; Note: sec	major pollen aller	B55699	160 2	88.2	722	
A; Experimen	major pollen aller	H55699	60 2	ښ	730	
A;Cross-ref	major pollen aller	A55699	60 2	'n	734	
A; Residues:	major pollen aller	A57427	160 2	٠.	740	
A; Molecule	major pollen aller	I55699	160 2	95.2	780	
A;Status: F	major pollen aller	F55699	160 2		786	
A; Accession	major pollen aller	C55699	60 2		787	
A; Reference	major pollen aller	E55699	160 2		789	
s) Car b I		D55699	160 2		790	
A; Title: T		G55699	160 2	<u>.</u>	795	
Mol. Immuno	major pollen aller	S05376	160 2		815	
R; Ipsen, H.				-		
A; Residues:	Description	ID	th DB	Match Length	Score	
A; Molecule				Query		
A;Status: r				dЮ		
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374.5 45.7 159 2 T06768 disease resistance 31 371 45.3 158 2 S47140 pathogenesis-relat 32 370 45.2 156 1 SNFB1 pathogenesis-relat 33 367 44.8 155 2 S52664 pathogenesis-relat 34 367 44.8 155 2 S20517 pathogenesis-relat 362.5 44.3 155 1 SNFB2 pathogenesis-relat 37 342.5 41.8 155 2 T11670 pathogenesis-relat 37 342.5 41.8 155 2 S35162 pathogenesis-relat 38 342.5 40.6 157 2 S35161 STH-2 protein - po 39 332.5 40.6 157 2 S35161 STH-2 protein - po 39 332.5 40.6 157 2 S42649 pathogenesis-relat 40 330.5 40.4 158 2 S12568 STH-2 protein - po 31 38.7 178 2 T07403 TSI-1 protein - po 42 316 38.6 155 2 S04553 pathogenesis-relat 43 31.3 38.1 155 2 S04553 pathogenesis-relat 44 310.5 37.9 154 2 S63884 major allergen Apit 45 302 36.9 155 2 T14918 pathogenesis-relat 46 310.5 37.9 154 2 S63884 pathogenesis-relat 47 310.5 37.9 154 2 S63885 pathogenesis-relat 48 310.5 37.9 154 2 S63885 pathogenesis-relat 49 30.5 36.9 155 2 T14918 pathogenesis-relat 40 310.5 37.9 154 2 S63885 pathogenesis-relat 41 311.5 37.9 154 2 S63885 pathogenesis-relat 42 310.5 37.9 154 2 S63885 pathogenesis-relat 43 310.5 37.9 154 2 S63885 pathogenesis-relat 44 310.5 37.9 154 2 S63885 pathogenesis-relat 45 30.5 36.9 155 2 T14918 pathogenesis-relat 46 30.5 37.9 154 2 S63885 pathogenesis-relat 47 310.5 37.9 154 2 S63885 pathogenesis-relat 48 310.5 37.9 154 2 S63885 pathogenesis-relat 49 30.5 30.5 30.9 155 2 T14918 pathogenesis-relat 40 30.5 30.5 30.5 30.5 30.5 30.5 30.5 30.
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159 2 T06768 158 2 S47140 156 1 SNFB1 155 2 S252664 155 2 S252567 155 1 SNFB2 155 2 S11670 155 2 S11670 155 2 S11670 157 2 S42649 158 2 T07468 178 2 T074603 158 2 T074503 159 2 S04553 154 2 S63984 155 2 S63984
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Qy 61 GLPFKYVKDRYDEVDHTNFKYNYSVIEGGPIGDTLEKISNEIKIVATPDGGSILKISNKY 	YETETT SVIPAARLFKAFI 	Query Match Best Local Similarity 99.4%; Pred. No. 2.2e-64; Matches 158; Conservative 0; Mismatches 1	A; Scatus: Preliminary A; Molecule type: protecin A; Molecule type: protecin A; Cross-references: PID:9297734; PIDN:AAB20452.1 A; Experimental source: pollen A; Note: sequence extracted from NCBI backbone (NCBIP A; Note: the source is designated as Betula verrucosa C; Comment: This protein induces IgE synthesis by B c C; Superfamily: pathogenesis-related protein C; Keywords: pollen F; 2-160/Product: major pollen allergen Bet v 1 #stat	A; Status: nucleuc acid sequence not snown A; Molecule type: mRNA A; Residues: 1-160 < KUN> R; Ipsen, H.; Hansen, O.C. Mol. Immunol. 28, 1279-1288, 1991 A; Title: The NH2-terminal amino acid sequence of the s) Car b I and oak (Quercus alba) Que a I pollens. A; Reference number: A53288; MUID:92072607 A; Accession: B53288	A; Mclecule type: mRNA A; Residues: 1-160 <bres 187-192,="" 1996="" 223,="" a,="" a.;="" a;="" accession:="" alpha="" an="" biochem.="" biophys.="" cell="" commun.="" cross-references:="" embl:x15877;="" epitope="" evidence="" for="" helical="" in="" j;="" jc4834;="" jc4834<="" kungl,="" lindemann,="" m.;="" machius,="" muid:96254050="" nid:g17937;="" number:="" pidn:caa33887.1;="" reference="" res.="" susani,="" t="" td="" the="" title:="" visser=""><td>RESULT 1 S05376 major pollen allergen Bet v 1 - European white birch C;Species: Betula pendula (European white birch) C;Date: 31.Mar-1990 #sequence_revision 31.Mar-1990 #text_change 04-Feb-2000 C;Accession: S05376; JC4834; B53288 R;Breiteneder, H.; Pettenburger, K.; Bito, A.; Valenta, R.; Kraft, D.; Rumpo EMBO J. 8, 1935-1938, 1989 A;Title: The gene coding for the major birch pollen allergen BetvI, is high: A;Reference number: S05376; MUID:90005395</td><td>ALIGNMENTS</td><td>35 362.5 44.3 155 1 SNFB2 36 362.5 44.3 155 2 T11670 37 342.5 41.8 155 2 S35162 38 342.5 41.8 155 2 S35161 39 332.5 40.6 157 2 S42649 40 330.5 40.4 158 2 S12568 41 317 38.7 178 2 T07403 42 316 38.6 155 2 S04552 43 312 38.1 155 2 S04552 44 310.5 37.9 154 2 S63984 45 302 36.9 155 2 T14918</td></bres>	RESULT 1 S05376 major pollen allergen Bet v 1 - European white birch C;Species: Betula pendula (European white birch) C;Date: 31.Mar-1990 #sequence_revision 31.Mar-1990 #text_change 04-Feb-2000 C;Accession: S05376; JC4834; B53288 R;Breiteneder, H.; Pettenburger, K.; Bito, A.; Valenta, R.; Kraft, D.; Rumpo EMBO J. 8, 1935-1938, 1989 A;Title: The gene coding for the major birch pollen allergen BetvI, is high: A;Reference number: S05376; MUID:90005395	ALIGNMENTS	35 362.5 44.3 155 1 SNFB2 36 362.5 44.3 155 2 T11670 37 342.5 41.8 155 2 S35162 38 342.5 41.8 155 2 S35161 39 332.5 40.6 157 2 S42649 40 330.5 40.4 158 2 S12568 41 317 38.7 178 2 T07403 42 316 38.6 155 2 S04552 43 312 38.1 155 2 S04552 44 310.5 37.9 154 2 S63984 45 302 36.9 155 2 T14918
EIKIVATPDGGSILKISNKY 120 EIKIVATPDGGSILKISNKY 121	60	i Length 160; i Indels 0; Gaps 0;	(NCBIP:68408) TRUCOSA by B cells in a T cell dependent manner	he immunochemically partial idestic	CAA33887.1; PID:g17938 M.; Visser, A.J.W.G.; Scheiner, O.	ch #text_change 04-Feb-2000 enta, R.; Kraft, D.; Rumpold, H.; S n allergen BetvI, is highly homolog		pathogenesis relat STH-21 protein - po STH-2 protein - po pathogenesis relat pathogenesis relat pathogenesis relat TSI-1 protein - to pathogenesis relat pathogenesis relat pathogenesis relat major allergen Api pathogenesis relat

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A;Title: Isoforms of Bet v 1, the major birch pollen allergen, an A;Reference number: A55699; MUID:9515322
A;Accession: D55699
A;Molecule type: mRNA
A;Residues: 1-160 <SWO>
A;Cross-references: EMBL:X77267; NID:9452733; PIDN:CAA54483.1; PID A;Note: the source is designated as Betula verrucosa C;Superfamily: pathogenesis-related protein
C;Keywords: pollen
F;2-160/Product: major pollen allergen.
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D55699
major pollen allergen Bet v le - Europe
C;Species: Betula pendula (European whi
C;Date: 01-Dec-1995 #sequence_revision
C;Accession: D55699; S41899
R;Swoboda, I.; Jilek, A.; Ferreira, F.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  J. Biol. Chem. 270, 2607-2613, 1995
A;Title: Isoforms of Bet v 1, the major birch
A;Reference number: A55699; MUID:95155322
A;Accession: G55699
A;Molecule type: mRNA
A;Molecule type: mRNA
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(55699)
major pollen allergen Bet v 1j - European white birch
C:Species: Betula pendula (European white birch)
C:Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change |
C:Accession: G55699; S41902
R:Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Somm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Cross-references: EMBL:X77271; NID:g452739; PIDN:CAA54 A;Note: the source is designated as Betula verrucosa C;Superfamily: pathogenesis-related protein C;Keywords: pollen C;Keywords: pollen allergen Bet v 1j #status
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Matches 152
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Best Local S
Matches 151
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cies: Betula pendula (European white birch)
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95.6%;
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                                                            Score 790;
Pred. No. 3.
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Pred. No. 1.2e-62;
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Mismatches
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                                                        DB 2;
3.4e-62;
3.7 2;
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HTKGDHEVKAEQVKASKEMGETLLRAVESYLLAHSDAYN 159

HTKGDHEVKAEQIKASKEMGETLLRAVESYLLAHSDAYN 160

GLPFKYVKDRYDEVDHTNFKYNYSVIEGGPIGDTLEKISNEIKIVATPDGGSILKISNKY 120

GFPFKYVKDRVDEVDHTNFKYSYSVIEGGPVGDTLEKISNEIKIVATPNGGSILKINNKY

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A.Title: Isoforms of Bet v 1, the major birch A;Reference number: A55699; MUID:95155322 A;Moleon: E55699
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                                                                                                                                                                                            C; Keywords: polle
F; 2-160/Product:
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                                                                                                                                                                                                                                                                                                                                                                                                            A;Cross-references: EMBL:X77268; NID:g452735; PIDN:CAA54484.1; A;Note: the source is designated as Betula verrucosa R;Swoboda, I:, Jilek, A.; Ferreira, F.; Vicente, O.; Hoffman-Sc submitted to the EMBL Data Library, January 1994
                                                                                                                                                                                                                                                                                                  A; Molecule type: mRNA
A; Residues: 1-160 <SW2>
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A; Residues: 1-160 <SWO>
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GLPFKYVKDRVDEVDHTNFKYNYSVIEGGPIGDTLEKISNEIKIVATPDGGSILKISNKY
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                                                                                 151;
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etula pendula (European white birch)
                                                                                                                                                                                            major pollen allergen Bet v 1f/i #status
                                                                                      Conservative
                                                                                                          96.3%;
95.0%;
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                                                                                                          Score 789; DB 2;
Pred. No. 4.le-62;
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A; Molecule type: mRNA
A; Residues: 1-160 <SWO>
A; Cross-references: EMBL:X77266; NID:g452731; PIDN:CAA54482.1;
A; Note: the source is designated as Betula verrucosa
R; Swoboda, I.; Jilek, A.; Ferreira, F.; Vicente, O.; Hoffman-Sc
                                                                                                                                                                                                                                      major pollen allergen Bet v 1d/h - European white birch C;Species: Betula perdula (European white birch) C;Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text C;Accession: C55699; S41901; S41898
                                                                                                           A;Title: Isoforms of Bet v 1, the major birch A;Reference number: A55699; MUID:95155322 A;Accession: C55699
                                                                                                                                                                           J. Biol. Chem.
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J. Biol. Chem. 270, 2607-2613, 1995

A;Title: Isoforms of Bet v 1, the major birch pollen allergen, ana A;Reference number: A55699; MUID:95155322

A;Accession: F55699

A;Molecule type: mRNA
A;Residues: 1-160 <SWO>
A;Cross references: EMBL:X77269; NID:9452727; PIDN:CAA54485.1; PID A;Note: the source is designated as Betula verrucosa
C;Superfamily: pathogenesis-related protein
C;Reywords: pollen
F;2-160/Product: major*pollen allergen Bet v 1g #status experiment
F;83/Binding site: carbohydrate (Asn) (covalent) #status absent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                submitted to the EMBL Data Library, January 1994
A; Reference number: S41896
A; Accession: S41901
A; Status: preliminary
A; Molecule type: mRNA
A; Residues: 1-160 <SW2>
A; Cross-references: EMBL:X77270; NID:g452737; PIDN:CAA54486.1;
A; Note: the source is designated as Betula verrucosa
C; Superfamily: pathogenesis-related protein
C; Reywords: pollen
C; Reywords: pollen
F; 2-160/Product: major pollen allergen Bet v 1d/h #status exper
F; 83/Binding site: carbohydrate (Asn) (covalent) #status absent
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C. Species: Betula pendula (European white birch)
C. Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change 20-Aug-1999
C. Accession: F55699; S41896
C. Accession: F55699; S41896
R. Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Sommergruber, K
RESULT
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6; Mismatches
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Pred. No. 6.2e
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major pollen allergen Bet v lm/n - European white birch C;Species: Betula pendula (European white birch) C;Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change C;Accession: A57427; S49450 R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Somm
                                                                                                                                                                 A;Cross-references: EMBL:X82028; NID:g807869; PIDN:CAA57550.1; A;Note: the source is designated as Betula verrucosa C;Superfamily: pathogenesis-related protein C;Keywords: pollen C;Keywords: pollen ellergen Bet v lm/n #status experfix-160/Product: major pollen allergen Bet v lm/n #status exper
                                                                                                                                                                                                                                                                                                                                        A;Cross-references: GB:X81972; NID:g807868; PIDN:CAA57497.1; PID:g551640 R;Engel, E.; Kraft, D.; Scheiner, O.; Breitenbach, M.; Ferreira, F. submitted to the EMBL Data Library, October 1994 A;Description: Isoforms of ETV1, the major birch pollen allergen, analy: A;Reference number: $49450
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A; Accession: I55699
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C;Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change
C;Accession: 155699; S41904
R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Somm
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A; Residues: 1-160 <SWO>
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A; Residues: 1-160 <ENG>
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142; Conser
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                                                                         Score 740; DE Pred. No. 8e-58; Mismatches
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Pred. No. 2.
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No.
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2.5e-61;
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J. Biol. Chem. 270, 2607-2613, 1995
A;Title: Isoforms of Bet v 1, the major birch pollen allerge
A;Reference number: A55699; MUID:95155322
A;Accession: H55699
A;Molecule type: mRNA
A;Residues: 1-160 <SWO>
A;Cross-references: EMBL:X77272; NID:g458478; PIDN:CAA54488.
A;Cross-references: EMBL:X77272; NID:g458478; PIDN:CAA54488.
C;Superfamily: pathogenesis-related protein
C;Keywords: pollen
C;Keywords: pollen
C;Keywords: pollen
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J. Biol: Chem. 270, 2607-2613, 1995
A;Title: Isoforms of Bet v 1, the major birch pollen allergen, A;Reference number: A55699; MUID:95155322
A;Accession: A55699
A;Molecule type: mRNA
A;Residues: 1-160 <SWO>
A;Cross-references: EMBL:X77200; NID:9450884; PIDN:CAA54421.1;
A;Cross-references: EMBL:X77200; NID:9450884; PIDN:CAA54421.1;
A;Note: the source is designated as Betula verrucosa
C;Superfamily: pathogenesis-related protein
C;Keywords: pollen
C;Keywords: pollen
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R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Somm
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  140;
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141; Conserv
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Score 730; DB 2;
Pred. No. 6e-57;
9; Mismatches 10
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Pred. No. 2.7e-57;
B; Mismatches 10
  10;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hoffmann-Sommergruber, K.;
                                                                                                                                                                                                                                                                                                                                                                                           allergen,
                                                      Length 160;
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Query Match
Best Local Similarity
Matches 135; Conserv
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J. Biol. Chem. 270, 2607-2613, 1995
A;Title: Isoforms of Bet v 1, the major birch pollen al
A;Reference number: A55699; MUID:95155322
A;Accession: B55699
A;Molecule type: mRNA
A;Residues: 1-160 <SWO>
A;Cross-references: EMBL:X77265; NID:g452729; PIDN:CAA5
A;Cross-references: EMBL:X77265; NID:g452729; PIDN:CAA5
A;Note: the source is designated as Betula verrucosa
C;Superfamily: pathogenesis-related protein
C;Keywords: pollen
C;Keywords: pollen
A;Cross-references: EMBL:X77599; NID A;Note: the source is designated as C;Superfamily: pathogenesis-related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 major pollen allergen Bet v 1c - European white birch (;Species: Betula pendula (European white birch) (;Species: Betula pendula (European white birch) (;C;Date: 01-Dec-1995 #sequence_revision 01-Dec-1995 #text_change C;Accession: B55599; 541897 R;Swoboda, I.; Jilek, A.; Ferreira, F.; Engel, E.; Hoffmann-Somm
                                                            A; Molecule type: mRNA
A; Residues: 1-160 <SWO>
                                                                                                                        A; Reference number: A; Accession: S47250
                                                                                                                                      C; Accession: S47250
R; Swoboda, I.; Scheiner, O
submitted to the EMBL Data
A; Reference number: S47249
                                                                                                                                                                                                                  gene 1-Sc1 protein - European white birch
C;Species: Betula pendula (European white birch)
C;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change
                                                                                                  A; Status: preliminary
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Best Local Similarity
Matches 139; Conserv
                                                                                                                                                                                                                                                                                                                                                      122
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                                                                                                                                                                                Scheiner, O.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      88.2%;
nilarity 87.4%;
Conservative
                                                                                                                                                            Library,
                                                                                                                                                          Heberle-Bors,
lbrary, August
  as Betula verrucosa
ted protein
                                          NID:g534909; PIDN:CAA54694.1;
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Pred. No. 3e-56;
9; Mismatches
                                                                                                                                                              E.; Vicente,
1994
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                                            PID:g534910
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Conservative

86.3%;

Score 707; DB 2; Pred. No. 6.1e-55; 9; Mismatches 15

Length 160; Indels

4

0

Gaps

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R; Breiteneder, H.; Ferreira,
Eur. J. Biochem. 212, 355-38
A; Title: Four recombinant is
A; Reference number: $30053;
A; Accession: $30054
A; Molecule type: mrNA
A; Residues: 1-160 <BRE>
A; Cross-references: EMBL:X7:
C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gene 1 Sc2 protein - European white birch
() Species: Betula pendula (European white birch)
() Date: 06-Jan.1995 #sequence_revision 06-Jan.1995 #text_change
() Accession: S47251
() Scheiner, O.; Heberle-Bors, E.; Vicente, O.
() Submitted to the EMBL Data Library, August 1994
() R; Reference number: S47249
() A; Reference number: S47249
() A; Rocession: S47251
() A; Status: preliminary
() A; Molecule type: mRNA
() A; Residues: 1-159 (SMO)
() A; Residues: 1-159 (SMO)
                                                                                                                                                                                                                                                                                                                                                                 RESULT 14

$30054

$30054

major allergen Cor a I/6 - European hazel

C;Species: Corylus avellana (European hazel)

C;Date: 07-Apr-1994 #sequence_revision 07-Apr-1994 #text_change 20-Aug-1999

C;Accession: $30054
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S47251
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C;Superfamily: pathogenesis-related protein
C;Keywords: pollen
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Matches 116
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                                                                                                                                                                                                                                                                                                                                                      Ferreira, F.; Hoffmann-Sommergruber,
                                                                                                                                                                                                                                                                                               S30053;
                                                                                                                                                                                                                 EMBL:X71000; NID:g22689; PIDN:CAA50328.1; PID:g22690
                                                       75.8%;
73.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             84.9%;
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                                       22;
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                                       Score 621; DB 2;
Pred. No. 2.1e-47;
2; Mismatches 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 703; DB 2;
Pred. No. 1.4e-54;
9; Mismatches 15
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                                                                         Length 160;
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C;Superfamily: pathogenesis-related proteir
C;Keywords: pollen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      major allergen Cor a I/11 - European hazel)
C;Species: Corylus avellana (European hazel)
C;Date: 07-Apr-1994 #sequence_revision 07-Apr-1994 #text_change 20-Aug-1999
C;Accession: S30055; S35507
R;Breiteneder, H.; Ferreira, F.; Hoffmann-Sommergruber, K.; Ebner, C.; Breit Eur. J. Biochem. 212, 355-362, 1993
Bur. J. Biochem. 212, 355-362, 1993
A;Title: Four recombinant isoforms of Cor a I, the major allergen of hazel pareference number: S30053; MUID:93185652
A;Accession: S30055;
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A;Residues: 1-133,'1',135-160 <BRE2>
A;Cross-references: EMBL:X70997; NID:g22683;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           submitted to the EMBL Data Library, February A; Reference number: $35507 A; Accession: $35507
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                                                                                                                                                                                                                                                                                                                                                                                                            A;Cross-references:
C;Genetics:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Molecule type: mRNA
A;Residues: 1-160 <BRE1>
A;Cross-references: EMBL:X70997
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Best Local :
122
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|||||| |||||||||||||| 61
2 GVFNYEAETTSVIPAARLFKSYVLDGDKLIPKVAPQAITSVENVEGNGGPGTIKNITFGE 61
                       GLPFKYVKDRYDEVDHTNFKYNYSVIEGGPIGDTLEKISNEIKIVATPDGGSILKISNKY 120
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HAKGDHEINASEMKGAKEMAEKLLRAVETYLLAHSAEYN
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                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                           75.8%; Score 621; DB 2; 73.0%; Pred. No. 2.1e-47; tive 22; Mismatches 21
                                                                                                                                                                                                                                                                                                                                                                                                                                 PIDN:CAA50325.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   the major allergen of hazel pollen,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    160
                                                                                                                                                                                                                                                                                        Length 160;
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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 2000000000
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Perfect score:
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         SPTREMBL_14:*

1: sp_archea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_virus:*
12: sp_virus:*
13: sp_vertebrate:
14: sp_unclassifie
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Gapop 10.0 , Gapext 0.5
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819
1 GVFNYETETTSVIPAARLFK.....GETLLRAVESYLLAHSDAYN 159
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19.762 Million cell updates/sec
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sp_organelle:*
sp_phage:*
sp_plant:*
sp_virus:*
sp_virus:*
sp_vertebrate:*
sp_unclassified:*
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                                                                                                                              sp_invertebrate:*
sp_manmal:*
sp_mhc:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	score	. [유건	Length	BB	ID	. (7)
۲	814	99.4	. 160	10	Q96366	Q96366 betula
2	812	99.1	160	10	024642	
ω	810	98.9	160	10	Q42499	Ξ.
4	808	98.7	160	10	023752	
υī	807	98.5	160	10	Q96371	
o	806	98.4	160	10	Q9SCH8	w
7	805		160	10	Q96370	Ξ.
8	804		160	10	Q9SCI0	Ξ.
9	804	98.2	160	10	Q9SCH9	
10	803		160	10	Q96365	
11	803		160	10	CAXXM1	Q9syw1 betula
12	801		160	10	Q96368	w
13	801	97.8	160	10	Q9SCI2	
14	800		160	10	OMAS60	Q9syw0 betula
15	799	97.6	160	10	Q9SCI3	Q9sci3 betula
16	798	97.4	159	10	023748	O23748 betula
17	798	97.4	160	10	Q96367	
18	798	97.4		10		
19	796	,	160	ŀ	023753	023753 betula

4	44	43	42	41	40	39	38	37	36	ω 5	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	
620	627	636	638	644	664	889	700	700	703	707	736	740	741	743	744	751	773	775	782	787	788	789	792	793	795	
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Q96503	Q96379	Q96377	Q96378	Q96381	Q96382	Q39425	Q39453	Q39430	Q39420	Q39417	Q39427	023747	Q39428	023749	Q39429	Q9ZS38	023750	Q9SCH6	023746	Q39431	Q9SCH5	Q9ZS39	Q9SYW2	ω	94	
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ALIGNMENTS

Qy 61 GLPF Db 62 GFPF	Db 2 GVFN	Qy 1 GVFN	Query Match Best Local Sir Matches 157;		KW Pathogene		DR PROSITE;				DR EMBL; 280	-	RL Submitted		RC TISSUE=POLLEN	SEQUENCE				Betula	POLLEN				Q9636	ID Q96366	RESULT 1	
KYVKDRVDEVDHTNFKYI 		YETETTSVIPAARLEKA	/ Match 99.4%; Local Similarity 98.7%; nes 157; Conservative		Pathogenesis-related protein.	PRODOM; PD000531; -; 1.	PROSITE; PS00451; PATHOGENESIS	DDINTC: DD00634DETAITEDC	0889; Betve; 1174; 30889	P15494; 1BTV.	; CAB02156.1;	NGS	Submitted (SEP-1996) to the	-	OBTAINED	FROM N.A.	e; Betula.	Magnoliophyta; eudicotyledons;	<pre>Eukaryota; Viridiplantae; Embryophyta;</pre>	verrucosa (White birch)	ALLERGEN BET V 1.	(TrambLrel.	(TrEMBLrel.	97 (TrEMBLrel. 02,		PRELIMINARY;		
NYSVIEGGPIGDTLEKIS		FILDGDNLFPKVAPQAIS	; Score 814; DB 10; ; Pred. No. 9.6e-62; 1; Mismatches 1;	MW; B2174110A9588AD4	in.		ESIS_BETVI; 1.	24	30889.		.*	HE BETVI FAMILY	e EMBL/GenBank/DDBJ		FROM ALLERGON, SWEDEN;			Rosidae;		rch) (Betula pendula)		Last		, Created)		PRT; 160 AA.		
GLPFKYVKDRVDEVDHTNFKYNYSVIEGGPVGDTLEKISNEIKIVATPDGGSILKISNKY	GVFNYETETTSVIPAARLFKAFILDGDNLFPKVAPQAISSVENIEGNGGPGTIKKISFPE	GVFNYETETTSVIPAARLEKAFILDGDNLEPKVAPQAISSVENIEGNGGPGTIKKISEPE	10; Length 160; 62; 1; Indels 0;	AD4 CRC64;									J databases.		•			I; 1	Tracheophyta; Spermatophyta;	la).		update)	date)					
VKY 120 KY 121	PE 61	PE 60	Gaps 0;									ATED							ıyta;									

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159

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Best Local S
Matches 157
                                      BETV1.

Betula verrucosa (White birch) (;
Bukaryota; Viridiplantae; Embryo;
Magnollophyta; eudicotyledons; R;
Betulaceae; Betula.

[1] ;
                                                                                                                                                                      Q42499 PRELIMINARY;
Q42499;
Q1-NOV-1996 (TrEMBLrel. 0
Q1-NOV-1996 (TrEMBLrel. 0
Q1-JUN-2000 (TrEMBLrel. 1
MAJOR ALLERGEN BET V 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     O24642 PRELIMINARY;
O24642;
O1-JAN-1998 (TrEMBLrel. (
O1-JAN-1998 (TrEMBLrel. (
O1-JUN-2000 (TrEMBLrel. )
POLLEN ALLERGEN BETV1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRINTS; PRO0634; BETALLERGEN.
PROSITE; PS00451; PATHOGENESIS_BETVI;
PRODOM; PD000531; -; 1.
Pathogenesis-related protein.
SEQUENCE 160 AA; 17589 MW; D8A0411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Fried1-Hajek R., Radauer Riordain G., Scheiner O. Submitted (OCT-1997) to -!- SIMILARITY: BELONGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Betula verrucosa (White birch) (Betula l
Eukaryota; Viridiplantae; Embryophyta;
Magnollophyta; eudicotyledons; Rosidae;
Betulaceae; Betula.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PFAM; PF00407; Bet_v_I; 1.
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EMBL; AJ002107; CAA05187.1;
HSSP; P15494; 1BTV.
                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GVFNYETETTSVIPAARLFKAFILDGDNLFPKVAPQAISSVENIEGNGGPGTIKKISFPE
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997) to the EMBL/GenBank/DDBJ databases
BELONGS TO THE BETVI FAMILY OF PATHOGENY
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98.7%;
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14,
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Pred. No. 1.4e
1; Mismatches
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Last sequence update)
Last annotation updat
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Last annotation update)
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yophyta;
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                                                               pendula).
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eurosids I; Fagales;
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Best Local Similarity 98.7
Matches 157; Conservative
         EMBL; AJ002108; CAA05188.1; -.
HSSF; P15494; 1BTV.
MENDEL; 26841: Betve;1174;26841.
INTERPO; IPR000916; -.
PRAM; PF00407; Bet_v_I: 1.
PRAMS; PF00634; BETALLERGEN.
PROSITE; PS00451; PATHOGENESIS_BETRODOM; PD000531; -; 1.
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"New Betv1 isoforms including a naturally occurring trumer betv1 isoforms including a naturally occurring trumer betv1 
                                                                                                                                                                                                         SEQUENCE FROM N.A.

TISSUE-POLLEN;

TISSUE-POLLEN;

Friedl-Hajek R., Radauer C., Hoffmann-Sommergruber K., I

Riordain G., Scheiner O., Breiteneder H.;

Submitted (OCT-1997) to the EMBL/GenBank/DDBJ databases

-!- SIMILARITY: BELONGS TO THE BETYI FAMILY OF PATHOGENI
                                                                                                                                                                                                                                                                                                                                                                                        Betula verrucosá (White birch) (Betula pendula).
Eukaryota; Viridiplantae; Embryophyta; Tracheophyta;
Magnoliophyta; eudicotyledons; Rosidae; eurosids I; i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-JAN-1998 (TrEMBLrel.
01-JAN-1998 (TrEMBLrel.
01-JUN-2000 (TrEMBLrel.
POLLEN ALLERGEN BETVI.
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PRINTS; PR00634; BETALLERGEN.

PROSITE; PS00451; PATHOGENESIS_BETVI;

PRODOM; PD000531; v; 1.

Pathogenesis related protein.

Pathogenesis related protein.

Pathogenesis related protein.
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MENDEL; 36840; Betve;1174;36840.
INTERPRO; IPR000916; -.
                                                                                                                                                                                                                                                                                                                                                                     Betulaceae;
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PD000531;
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                                                                                                                                                                                                                                                                                                                                                                     Betula.
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                                    PATHOGENESIS_BETVI;
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No. 2.1e-61;
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Fagales;
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Best Local Similarity
Matches 157; Conser
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Best Local :
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01-FEB-1997 (TrEMBLrel. 0
01-FEB-1997 (TrEMBLrel. 0
01-JUN-2000 (TrEMBLrel. 1
POLLEN ALLERGEN BET V 1.
 Q9SCH8;
                                                                                                                                                                                                                                                           PRINTS; PRO0634; BETALLERGEN.
PROSITE; PSO0451; PATHOGENESIS_BETVI;
PRODOM; PD000531; -; 1.
Pathogenesis related protein.
SEQUENCE 160 AA; 17670 MW; 69B441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pathogenesis-related SEQUENCE 160 AA; 1
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HSSP; P15494; 1BTV.
MENDEL; 30893; Betve;1174;30893
INTERPRO; IPR000916; -.
PFAM; PF00407; Bet_v_I; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Betula verrucosa (White birch) (Betula pendula).
Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; eudicotyledons; Rosidae; eurosids I; Fagales;
Betulaceae; Betula.
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                                                                                                                                                                                                                                                                                                                                                                                         Submitted (SEP-1996) to the EME-!- SIMILARITY: BELONGS TO THE
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                                                                                                              GFPFKYVKDRVDEVDHTNFKYNYSVIEGGPIGDTLEKISNEIKIVATPDGGSILKISNKY
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                                                                   HTKGDHEVKAEQVKASKEMRETLLRAVESYLLAHSDAYN
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(TrEMBLrel. 02, Last sequence update)
(TrEMBLrel. 14, Last annotation update)
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             PRELIMINARY;
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17523 MW;
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98.7%;
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98.7%;
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                                                                                                                                                                                                       Score 807; DB Pred. No. 3.7e 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                      EMBL/GenBank/DDBJ databases
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             PRT;
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                                                                                                                                                                                                                                                               69B4410BBA6A1AC6 CRC64;
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             160
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.7e-61;
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RESULT COG NO. COG NO.
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Best Local Sin
Matches 155;
                                          of the protein derived from Austrian bi:
Mol. Immunol. 36:639-645(1999).
EMBL; AJO06911; CAAO7326.1; -.
INTERPRO; IPRO00916; -.
PPAM; PPO0407; Bet_v_I; 1.
PRANTS; PRO0634; BETALLERGEN.
PROSITE; PSO0451; PATHOGENESIS_BETVI; 1
PROSITE; PS00451; PATHOGENESIS_BETVI; 1
SEQUENCE 160 AA; 17631 MW; D8A9575C
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01-MAY-2000
01-JUN-2000
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Q96370;
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Betula verrucosa (White birch) (Betula perkaryota; Viridiplantae; Embryophyta; Magnoliophyta; audicotyledons; Rosidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Betula verrucosa (White birch) (Betula |
Eukaryota; Viridiplantae; Embryophyta;
Magnoliophyta; eudicotyledons; Rosidae;
Betulaceae; Betula.
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01-JUN-2000 (TrEMBLrel.
POLLEN ALLERGEN BETV1, 1
                                                                                                                                                                                                                                               Submitted (SEP-1996) to -!- SIMILARITY: .BELONGS
                                                                                                                                                                                                                                                                           Submitted (SEP-1996)
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Friedl-Hajek R., Radauer C., Brotaneder H.;
Leberl K., Scheiner O., Breiteneder H.;
"New Bet v 1 isoforms including a naturally
"f the wrotain derived from Austrian birch F
                     Pathogenesis-related
                                                                                                                                                                                                                                                                                                                   TISSUE=POLLEN
                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                 N.A.
OBTAINED FROM ALLERGON,
  d protein.
17541 MW;
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97.5%;
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02,
14,
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                                                                                                                                                                                                                                                  THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Last sequence update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 806; DB Pred. No. 4.5e 3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ω
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                                                                                                                                                                                                                                                  BETVI FAMILY OF
    D8AF110BBD1CDADB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               _BETVI; 1.
_D8A9575C4C393DA0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     806; DB 10;
No. 4.5e-61;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             160
                                                                                                                                                                                                                                                                                                                   SWEDEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     pendula).
Tracheophyta;
eurosids I; F
                                                                                                                                                                                                                                                                                                                                                                                                          Tracheophyta; Spermatophyta;
eurosids I; Fagales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       pendula).
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Best Local S
Matches 155
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OSCIO;
OSCIO;
O1-MAY-2000 (TIEMBLIEL.
O1-MAY-2000 (TIEMBLIEL.
O1-JUN-2000 (TIEMBLIEL.
POLLEN ALLERGEN BETV1, I
                                        Q9SCH9 PRELIMINARY; PRT; 160 AA.
Q9SCH9;
01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
PROLLEN, ALLERGEN BETV1, ISOFORM AT45.
                          BETV1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PFAM; PF00407; Bet_v_I; 1.
PRINTS; PR00534; BETALLERGEN.
PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
SEQUENCE 160 AA; 17572 MW; 99A3581E5B3A03FB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Friedl-Hajek R., Radauer C., Riordain G., Hoffmann-Som Leberl K., Scheiner O., Breiteneder H.; Scheiner O., Breiteneder H.; Scheiner Sincluding a naturally occurring of the protein derived from Austrian birch pollen."; Mol. Immunol. 36:639-645(1999).
EMBL; AJ006908; CAA07323.1; -.
INTERPRO; IPRO00916; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Betula verrucosa (White birch) (Betula
Eukaryota; Viridiplantae; Embryophyta;
Magnollophyta; eudicotyledons; Rosidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BETVI
  Betula
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE-POLLEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                       HTKGDHEVKAEQVKASKEMGETLLRAVESYLLAHSDAYN 159
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      h 98.2%;
Similarity 97.5%;
55; Conservative
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(White
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98.1%;
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13,
birch)
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Pred. No. 6.7e-61;
2; Mismatches 2
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(Betula
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Tracheophyta;
e; eurosids I; F
pendula).
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on update)
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Fagales;
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Best Local S
Matches 155
Query Match
Best Local Similarity
Matches 154; Conserv
                                                            MENDEL; 30888; Betve;1174;30888.

INTERPO; IPRO00916; -.

PFAM; PF00407; Bet_v_I; 1.

PRINTS; PR00634; BETALLERGEN.

PROSTTE; PS00451; PATHOGENESIS_BETVI; 1

PRODOM; PD000531; -; 1.

Pathogenesis-related protein.

SEQUENCE 160 AA; 17558 MW; 4200581E
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EMBL; AJ006910; CAA07325.1; -.
INTERPRO; IPR009916; -.
PFAM; PF00407; Bet_v_I; 1.
PFAM; PF00407; Bet_v_I; 1.
PRINTS; PR00634; BETALLERGIN.
PRINTS; P800451; PATHOGRNESIS. BE SEQUENCE 160 AA; 17615 MW; 5A
                                                                                                                                                                 PROTEIN.
EMBL; Z80100; CAB02155.1;
HSSP; P15494; 1BTV.
                                                                                                                                                                                                          Submitted (SEP-1996) to -!- SIMILARITY: BELONGS
                                                                                                                                                                                                                                                                                                01-FEB-1997 (TrEMBLrel. 02, Created)
01-FEB-1997 (TrEMBLrel. 14, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
POLLEN ALLERGEN BET V 1.
Betula verrucosa (White birch) (Betula pendula).
Eukaryota; Viridiplantae; Embryophyta; Tracheophyta;
Magnoliophyta; eudicotyledons; Rosidae; eurosids I; F
                                                                                                                                                                                                                                                                                                                                                                                          Q96365;
Q96365;
                                                                                                                                                                                                                                   TISSUE-POLLEN Larsen J.N.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Leberl K., Scheiner O., Breiteneder I
"New Bet v 1 isoforms including a nat
of the protein derived from Austrian
                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                      Betulaceae;
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Betulaceae; Betula.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; Rosidae; eurosids I; Fagales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE-POLLEN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       122
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Betula verrucosa (White birch) (Betula pen Eukaryota; Viridiplantae; Embryophyta; Tramangoliophyta; endicotyledons; Rosidae; et Magnoliophyta; endicotyledons; endicotyledons;
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"Cloning and characterization o
allergen Bet v 1.";
Submitted (JAN-199) to the EMB
EMBL: AF124838; AAD26561.1; -.
INTERPRO; IPR000916; -.
PFAM; PF00407; Bet_v_1; 1.
PRINTS; PR00634; BETALLERGEN.
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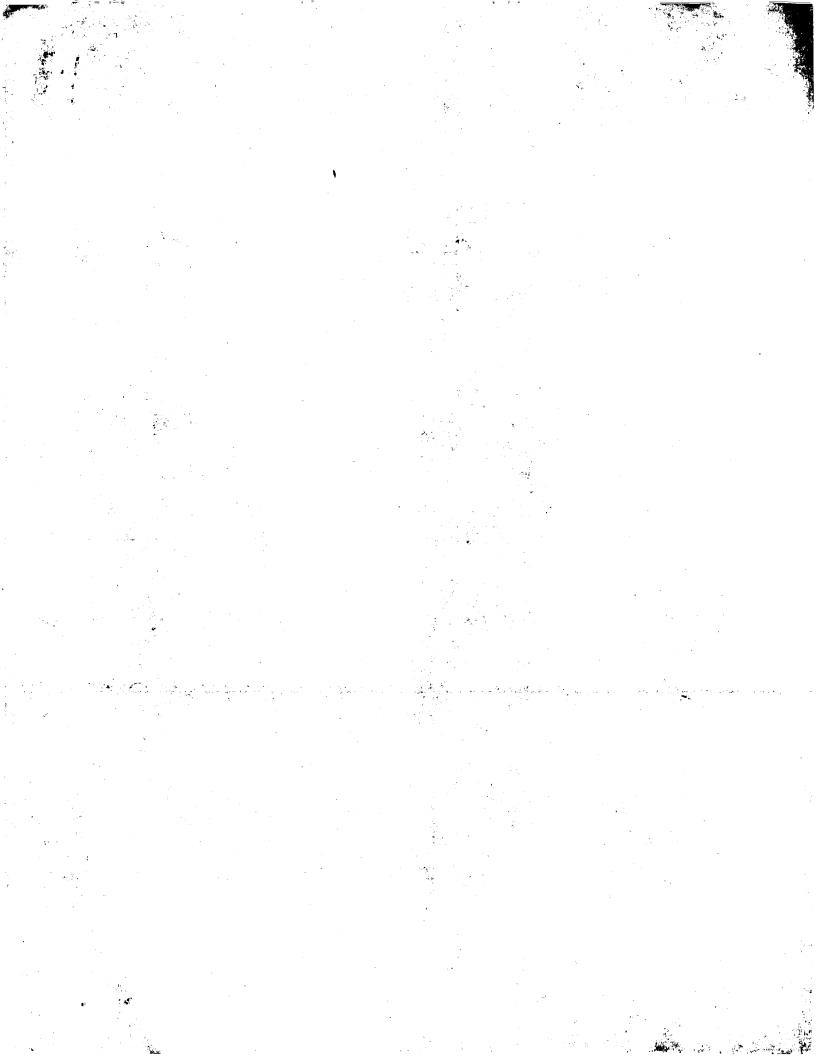
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01-MAY-2000 (TrEMBLrel. 13, Creat
01-MAY-2000 (TrEMBLrel. 13, Last
01-JUN-2000 (TrEMBLrel. 14, Last
POLLEN ALLERGEN BETVI, ISOFORM AT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Friedl-Hajek R.; Radauer C., Riordain G., Hoffmann-Son Leberl K., Scheiner O., Breiteneder H.; Leber W. Bet v. 1 isoforms including a naturally occurring of the protein derived from Austrian birch pollen.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Betula verrucosa (White birch) (Betula |
Eukaryota; Viridiplantae; Embryophyta; '
Magnoliophyta; audicotyledons; Rosidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRINTS; PRO0634; BETALLERGEN.
PROSITE; PS00451; PATHOGENESIS_BETVI;
PRODOM; PD000531; -; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MENDEL; 30891; Betve;1174;
INTERPRO; IPR000916; -.
PFAM; PF00407; Betwe; 1; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL;
HSSP;
                                                                                                                                                                                                                                                                                                                                PRINTS; PR00634; BETALLERGEN. PROSITE; PS00451; PATHOGENESIS. SEQUENCE 160 AA; 17520 MW;
                                                                                                                                                                                                                                                                                                                                                                                                              Mol. Immunol. 36:639-645(1999).
EMBL; AJ006904; CAA07319.1; -.
INTERPRO; IPR000916; -.
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                                                                                                                                                                                                                                                                                                                                                                                              PFAM;
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                                                                       HTKGDHEVKAEQVKASKEMGETLLRAVEGYLLAHSDAYN
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P15494; 1BTV.
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                                                                                                                                                                                                                                                       Similarity
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97.5%;
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Pred. No. 1.2e
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eurosids I; F
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RESULT
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Best Local Similarity
Matches 153; Conserv
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Q9SYW0;
01-MAY-2000
01-MAY-2000
01-JUN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q9SCI3;
01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2000 (TrEMBLrel. 14, Last annotation update)
POLLEN ALLERGEN BETV1, ISOFORM AT8.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Son D.Y., Haustein D., Vieths S.;
"Cloning and characterization of isoforms of the major allergen Bet v 1.";
Submitted (JAN-1999) to the EMBL/GenBank/DDBJ database:
EMBL; AF124837; AAD26560.1; -.
INTERPRO; IPR000916; -.
PFAM; PF000407; Bet_v_1; 1.
PRINTS; PR00624; BETALLERGEN.
PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
  INTERPRO; IPRO00916; -.
PFAM; PF00407; BeC_v_; 1.
PRINTG; PR00634; BETALLERGEN.
PROSITE; PS00451; PATHOGENESIS.
SEQUENCE 160 AA; 17588 MW;
                                                                                                                         Friedl-Hajek R., Radauer C., Riordain G., Hoffmann-Son Leberl K., Scheiner O., Breiteneder H.;
"New Bet v 1 isoforms including a naturally occurring of the protein derived from Austrian birch pollen.";
Mol. Immunol. 36:639-645(1999).
EMBL; AJ006903; CAA07318.1; -
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Eukaryota; Viridiplantae; Embryophyta; T
Magnoliophyta; eudicotyledons; Rosidae;
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Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; eudicotyledons; Rosidae; eurosids I; Fagales;
Betulaceae; Betula.
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Pred. No. 1.5e-60;
4; Mismatches 2;
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_BETVI; 1.
5715581E49A223E9 CRC64;
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Tracheophyta; Spermatophyta;
; eurosids I; Fagales;
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                               GFPFKYVKDRVDEVDHTNFKYNYSVIEGGPVGDTLEKISNEIKIVTTPDGGCVLKISNKY 121
                                                                                             Conservative
                                                                                                    97.6%;
                                                                                             Score.799; DB 10;
Pred. No. 1.8e-60;
3; Mismatches 3;
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Search completed: December 11, 2000, 10:11:10
Job time: 1767 sec



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Result
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Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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PIR; S05376; S05376.
PDB; 1BTV; 17-SEP-97.
PDB; 1BTV; 17-SEP-97.
INTERPRO; IPR000916; -.
PFAM; PF00407; Bet_V_I; 1.
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P43183;
O1-NOV-1995
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                                                                               MEDLINE: 95155322.

Swoboda I., Jilek A., Ferreira F., Engel E., Hoffman-Sc., Scheiner O., Kraft D., Breiteneder H., Pittenauer E., Vicente O., Heberle-Bors E., Ahorn H., Breitenbach M.;
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PROSITE;
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                                                                                                                                                                     Betula verrucosa (White birch) Eukaryota; Viridiplantae; Embro Magnoliophyta; eudicotyledons;
             <del>-</del>
                                       "Isoforms of Bet v 1, the major birch pollen allergen, analyzed liquid chromatography, mass spectrometry, and cDNA cloning."; J. Biol. Chem. 270:2807-2613(1995).
                                                                                                                             TISSUE-POLLEN,
                                                                                                                                      SEQUENCE FROM N.A.,
                                                                                                                                                            Fagales;
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                                                                                                                                Vicente O., Kraft D., Breiteneder H., Pittenauer E., Schmid E., "Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chromatography, mass spectrometry, and cDNA cloning.";
J. Biol. Chem. 270:2607-2613(1995).
-i- SUBCELLULAR LOCATION: CYTOPLASMITC
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Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids I;
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PFAM; PF00407; Bet_v_I; 1.

PRINTS; PR00634; BETALLERGEN.

PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
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HSSP; P15494; 1BTV.
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HSSP; P15494; 1BTV.
INTERPRO; IPR000916; -.
PFAM; PF00407; Bet_V_I; 1.
PRINTS; PR00634; BETALLERGEN.
PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
PAthogenesis-related protein; Allergen; Mu
INIT_MET 0 0
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MEDLINE; 9515322.

SWODOda I., Jilek A., Ferreira F., Engel E., Hoffman-Sommergrube Scheiner O., Kraft D., Breiteneder H., Pittenauer E., Schmid E., Vicente O., Heberle-Bors E., Ahorn H., Breitenbach M.;

"Isoforms of Bet v 1, the major birch pollen allergen, analyzed liquid chromatography, mass spectrometry, and cDNA cloning.";

J. Biol. Chem. 270:2607-2613(1995).

-!- SUBCELLULAR LOCATION: CYTOPLASMIC.

-!- SUBCELLULAR LOCATION: CYTOPLASMIC.
PRINTS; E
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                                                                                                          use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and fc entitles requires a license agreement (See http://www.isb-slb.or send an email to license@isb-sib.ch).
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Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids I;
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01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
MAJOR POLLEN ALLERGEN BET V 1-F/I (BET V I-F/I).
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P43179;
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                                                    X77268; CAA54484.1;
X77274; CAA54490.1;
P15494; IBTV.
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PATHOGENESIS_BETVI;
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PRINTS; PR00634; BETALLERGEN.

PROSITE; PS00451; PATHOGENESIS_BETVI; 1.

PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
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MEDLINE; 9515322.

SWODOdd I., Jilek A., Ferreira F., Engel E., Hoffman-Sommergrube Swobodd I., Jilek A., Ferreira F., Engel E., Hoffman-Sommergrube Scheiner O., Kraft D., Breiteneder H., Pittenauer E., Schmid E., Vicente O., Hebsrie-Bors E., Ahorn H., Breitenbach M.;

"Isoforms of Bet v 1, the major birch pollen allergen, analyzed liquid chromatography, mass spectrometry, and cDNA cloning.";

"Isoforms of Bet v 1, the major birch pollen allergen, analyzed Liquid chromatography, mass spectrometry, and cDNA cloning.";

"Isoforms of Bet v 1, the major birch pollen allergen, analyzed Liquid chromatography.";

"Isoforms of Bet v 1, the major birch pollen allergen, analyzed Liquid chromatography.";

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Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids I;
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01-NOV-1995 (Rel. 32, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation updat)
MAJOR POLLEN ALLERGEN BET V 1-D/H (BET V 1-
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P43180;
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HSSP; P15494; 1BTV.
INTERPRO; IPR000916; -.
PERM; PE00407; Bet_v_I; 1.
PRINTS; PR00634; BETALLERGEN.
PROSITE; PS00451; PATHOSENESIS_BETVI; 1.
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Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids I;
                                                                                                                                                                                                                                                                                                           Pathogenesis-related protein;
INIT_MET 0 0
SEQUENCE 159 AA; 17420 MW;
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                   GLPFKYVKDRVDEVDHTNFKYNYSVIEGGPIGDTLEKISNEIKIVATPDGGSILKISNKY
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v-1995 (Rel. 32, Last sequence update)
v-1997 (Rel. 35, Last annotation update)
POLLEN ALLERGEN BET V 1-G (BET V I-G).
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L.7e-61;
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Swoboda I., Jilok A., Ferreira F., Engel E., Hoffman-Sommers Swoboda I., Jilok A., Ferreira F., Engel E., Hoffman-Sommers Scheiner O., Kräft D., Breitender H., Pittenauer E., Schmic Vicente O., Heberle-Bors E., Ahorn H., Breitenbach M.; "Isoforms of Bet v 1, the major birch pollen allergen, anal; liquid chromatography, mass spectrometry, and cDNA cloning." J. Biol. Chem. 270:2607-2613(1995).

J. Biol. Chem. 270:2607-2613(1995).

-i- SUBCELLULAR LOCANION: CYTOPLASMIC.

-i- DISEASE: MAIN CAUSE OF TYPE I ALLERGIC REACTIONS IN EUR
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01-NOV-1995
01-NOV-1997
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PFAM; PF00407; Bet v_I; 1.
PRINTS; PRO0634; BETALLERGEN.
PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
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Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids I;
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INIT_MET 0 BY SIMILARITY
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P15494; LBTV.
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"Isoforms of Bet v 1, the major birch pollen allergen, analyzed liquid chromatography, mass spectrometry, and cDNA cloning.";
J. Biol. Chem. 270:2607-2613(1995).
-i- SUBCELLULAR LOCATION: CYTOPLASMIC.
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Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids I;
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Pred. No. 1.7e-57;
8; Mismatches 10
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Matches 140
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01-NOV-1995
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PRAM; PF00407; Bet_v_I; 1.

PRINTS; PR00634; BETALLERGEN.

PROSITE; PS00451; PATHOGENESIS BETVI; 1.

PROSITE; PS00451; PATHOGENESIS BETVI; 1.
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Swoboda I., Jilek A., Ferreira F., Engel E., Hoffman-Sommergrube Scheiner O., Kraft D., Breiteneder H., Pittenauer E., Schmid E., Vicente O., Heberle-Bors E., Ahorn H., Breitenbach M.;

"Isoforms of Bet v 1, the major birch pollen allergen, analyzed liquid chromatography, mass spectrometry, and cDNA cioning.";

J. Biol. Chem. 270:2607-2613(1995).

-i- SUBCELLULAR LOCATION: CYTOPLASMIC.
-i- DISEASE: MAIN CAUSE OF TYPE I ALLERGIC REACTIONS IN EUROPE,
                                                                                          Betula verrucosa (White birch)
Eukaryota; Viridiplantae; Embry
Magnoliophyta; eudicotyledons;
                                                                                                                                                                                                                                                                                    BV1K_BETVE
P43184;
                                                                                                                                                                                                                                                                                                                                       BETVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pathogenesis-related INIT_MET 0 SEQUENCE 159 AA; 1
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Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids I;
                          SEQUENCE FROM N.A.,
                                                                         Fagales;
                                                                                                                                                                                            MAJOR POLLEN
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                                                                         Betulaceae;
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                                                                                                                                                                                    (Rei. 32, Created)
(Rei. 32, Last sequence update)
(Rel. 35, Last annotation update)
N ALLERGEN BET V 1-K (BET V I-K).
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                                                                                                                                                                                                                                                                                                            STANDARD;
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                                                                         Betula.
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                          PARTIAL
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                                                                                          irch) (Betula pendula).
Embryophyta; Tracheophyta; Spermatophy
lons; core eudicots; Rosidae; eurosids
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Pred. No. 5.8e
8; Mismatches
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                          SEQUENCE
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-!- SUBCELLULAR LOCATION: CYTOPLASMIC.
MEDLINE; 95155322.

Swoboda I., Jilek A., Ferreira F., Engel E., Hoffman-Sommergruber Scheiner O., Kraft D., Breiteneder H., Pittenauer E., Schmid E., Vicente O., Heberie-Bors E., Ahorn H., Breitenbach M.;

"Isoforms of Bet v 1, the major birch pollen allergen, analyzed by liquid chromatography, mass spectrometry, and cDNA cloning.";
J. Biol. Chem. 270:2607-2613(1995).

-!; SUBCELLULAR LOCATION: CYTOPLASMIC.
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HSSP; P15494; 1BTV
INTERPRO; IPR000916; -.
PFAM; PF00407; Bet_v_I; 1.
PRINTS; PR00634; BETALLERGEN.
PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                             Betula verrucosa (White birch) (Betula pendula).
Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; S
Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
                                                                                                                                                                                                                                                                                                TISSUE-POLLEN
                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.,
                                                                                                                                                                                                                                                                                                                                                                                                   Fagales;
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Swoboda I., Jilek A., Ferreira F.,
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N ALLERGEN BET V 1-C (BET V
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Pred. No. 1.3e-56;
9; Mismatches 11;
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Matches 138; Conser
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01-FEB-1995
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D1-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
MAJOR POLLEN ALLERGEN ALN G 1 (ALN G I).
Alnus glutinosa: (Alder).
Eukaryota; Viridiplantae; Embryophyta; Tracheo
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Complementary DNA cloning and expression in Escheric g I, the major allergen in pollen of alder (Alnus glu J. Allergy Clin. Immunol. 90:909-917(1992).

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1. DISSASE: A CAUSE OF TYPE I ALLERGIC REACTIONS IN AMERICA AND ISSR.

-1. SIMILARITY: BELONGS TO THE BETVI FAMILY OF PATHOG
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                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its the by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                        Breiteneder H., Ferreira F., Reikerstorfer A., Duchene M., Valenta R., Hoffmann-Sommergruber K., Ebner C., Breitenbach
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PRAM; PF00407; Bet.v_I; 1.
PRINTS; PR00634; BETALLERGEN.
PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
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01-FEB-1995
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    PRINTS: PROUGAS4; BETALLERGEN.
PRINTS: PRO1634; BETALLERGEN.
PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
Allergen; Pathogenesis-related protein; Multigene family.
Allergen; Pathogenesis-related protein; Multigene family.
Allergen; Pathogenesis-related protein; Multigene family.
Allergen; Pathogenesis-related protein; 1.
                                                                                                                            use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an entitles requires a license agreement (See http://www.isborsend an email to license@isb-sib.ch).
                                                                                                                                                                                 the
                                                                                                                                                                                                                                                                  "PCR based cloning and sequencing of isogenes encoding pollen major allergen Car b I from Carpinus betulus, hc Mol. Immunol. 29:703-711(1992).

-!- DISEASE: A CAUSE OF TYPE I ALLERGIC REACTIONS IN EU
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MAJOR POLLEN ALLERGEN CAR B 1, ISOFORM
Carpinus betulus (Hornbeam).
Eukaryota; Viridiplantae; Embryophyta;
Magnoliophyta; eudicotyledons; core eud
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PFAM; PF00407; Bet_v_I; 1.
PRINTS; PRO0634; BETALLERGEN.
PROSITE; PS00451; PATHOGENESIS_BETVI;
                                                              EMBL; X66933; CAA47367.1;
HSSP; P15494; 1BTV.
INTERPRO; IPR000916; -.
PFAM; PF00407; Bet_v_I; 1.
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INIT_MET 0 BY SIMILARITY.
SEQUENCE 159 AA; 17207 MW; 8DCFB96C680688A6
 SEQUENCE
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                                                                                                                                                                                                                                                                                                                                     MEDLINE; 92293162.
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                                                                                                                                                                                                                                                        AMERICA AND USSR
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P15494; 1BTV.
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28; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                    (Rel. 31,
(Rel. 31,
(Rel. 35,
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GVFNYETETTSVIPAARLFKAFILDGDNLFPKVAPQAISSVENISGNGGPGTIKKISFPE

Query Match Best Local Matches 11

Similarity

75.9%; 73.0%;

Score Pred.

Conservative

21;

ore 621; DI ed. No. 1.5e Mismatches

Indels

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Gaps

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Length

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Best Local (
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SEQUENCE
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                                                                                                     Allergen;
INIT_MET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "PCR based cloning and sequencing of isogenes encoding pollen major allergen Car b I from Carpinus betulus, hc Mol. Immunol. 29:703-711(1992).

-!- DISEASE: A CAUSE OF TYPE I ALLERGIC REACTIONS IN EU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Carpinus betulus (Hornbeam).
Eukaryota; Viridiplantae; Embry
Magnoliophyta; eudicotyledons;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-FEB-1995 (Rel. 31, Last sequence up
01-NOV-1997 (Rel. 35, Last annotation
MAJOR POLLEN ALLERGEN CAR B 1, ISOFORM
                                                                                                                                                                                                                                                                                                                                               use by non-profit institutions as long modified and this statement is not removed. entities requires a license agreement (See
                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Entre European Bioinformatics Institute. There are no rest
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P38949;
01-FEB-1995
                                                                                                                                              PROSITE; PRO0634; BETALLERGEN.
PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
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-!- SIMILARITY: BELONGS TO THE BETVI FAMI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE; 92293152.
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X66918; CAA47357.1;
P15494; 1BTV.
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74.8%;
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Embryophyta; Tracheophyta; Spermatophyta;
Aons: core eudicots; Rosidae; eurosids I;
                ted protein; Multigene f
BY SIMILARITY.
V -> A (IN ISOFORM 1B)
I -> S (IN ISOFORM 1B)
K -> E (IN ISOFORM 1B)
W; 21DCD17A38851E8E CRC
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BETVI FAMILY OF
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                  1B).
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CRC64;
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EMBL; X71000; CAA5032;
EMBL; X70997; CAA5032;
EMBL; X70998; CAA5032;
EMBL; X70998; CAA5032;
PIR; S30053; S30053.
PISSP; P15494; IBTV.
                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDIINE; 93185652.

Breitenbeder H., Ferreira F., Hoffmann-Sommergruber K., Ebner C.,
Breitenbedh M., Rumpold H., Kraft D., Scheiner O.;
Breitenbech M., Rumpold H., Kraft D., Scheiner O.;
Breitenbech M., Rumpold H., Kraft D., Scheiner O.;

"Four recombinant isoforms of Cor a I, the major allergen of hazel
pollen, show different 192-binding properties.";

Eur. J. Biochem. 212:355-362(193).

-i- DISEASE: A CAUSE OF TYPE I ALLERGIC REACTIONS IN EUROPE, NORTH
AMBRICA AND USSR. THE COR A I ISOFORMS DISPLAY DIFFERENT ANTIGEN
AND ALLERGENIC PROPERTIES.

-i- MISCELLANEOUS: THE SEQUENCE SHOWN IS THAT OF CLONE COR A 1/5.

-i- SIMILARITY: BÉLONGS TO THE BETVI FAMILY OF PATHOGENESIS-RELATED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MPAA_CORAV STANDARD; PRT; 159 AA. 008407; 01-OCT-1994 (Rel. 30, Created) 01-FEB-1995 (Rel. 31, Last sequence update) 01-NOV-1997 (Rel. 35, Last annotation update) MAJOR POLLEN ALLERGEN COR A 1, ISOFORMS 5, 6,
                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                 VARIANT
VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Corylus avellana (European hazel).

Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta; Magnollophyta; eudicotyledons; core eudicots; Rosidae; eurosids I;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
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IPR000916; -.
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             V -> A (IN CLONE COR A 1/11).
P -> T (IN CLONE COR A 1/11).
P -> S (IN CLONE COR A 1/16).
E -> G (IN CLONE COR A 1/16).
T -> K (IN CLONE COR A 1/6 AND 1/16).
H -> S (IN CLONE COR A 1/6 AND 1/16).
I -> T (IN CLONE COR A 1/16).
I -> T (IN CLONE COR A 1/16).
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4

Query Match Best Local Similarity

74.6%; 71.7%;

Score Pred.

610; DB 1; No. 1.4e-46;

Length 159

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121 HAKGDHEINAEEMKGAKEMAEKLLRAVETYLLAHSAEYN 159
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                                             GLPFKYVKDRVDEVDHTNFKYNYSVIEGGPIGDTLEKISNEIKIVATPDGGSILKISNKY
                                   GSRYKYVKERVDEVDNTNFTYSYTVIEGDVLGDKLEKVCHELKIVAAPGGGSILKISSKF 120
                                                                                                              114;
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Search completed: December 11, 2000, 10:43:18 Job time: 110 sec

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Sp_archea:*

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Gapop 10.0 , Gapext 0.5
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818
1 GVFNYETETTSVIPAARLFK.....GETLLRAVESYLLAHSDAYN 159
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         sp_mammal:*
sp_mhc:*
sp_organelle:*
sp_phage:*
sp_plant:*
sp_vious:*
sp_virus:*
sp_vertebrate:*
sp_unclassified:*
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sp_bacteria:*
sp_fungi:*
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sp_invertebrate:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	B	Ħ	Description	
1	809	98.9	160	10	Q96366	Q96366 betula ve	verr
2	. 807	98.7	160	10.	024642	betula	verr
ω	805	98.4	160	10	Q42499	betula	verr
4	803	98.2	160	10	023752	betula	err
ن	802	98.0	160	10	Q96371	•	err
თ	801	•	160	10	Q9SCH8		err
7	800	97.8	160	10	Q96370	betula	err
80	799	97.7	160	10	Q9SCI0) betula	err
9	799	97.7	160	10	Q9SCH9	betula	err
10	798	97.6	160	10	Q96365	betula	err
11	798	97.6	160	10	Q9SYW1	betula	err
12	796	97.3	160	10	Q96368		err
13	796	97.3	160	10	Q9SCI2	betula	verr
14	795	97.2	160	10	Q9SYW0) betula	err
15	794	97.1	160	10	Q9SCI3	betula	err
16	793	96.9	159	10	023748	O23748 betula ve	err
. 17	793	96.9	160	10	Q96367	betula	err
18	793	96.9	160	10	023753		verr
19	791	96.7	160	5	00075	1	

	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20
	622	629	638	639	640	659	683	695	695	698	702	731	735	736	738	739	746	768	770	777	782	783	784	787	788	790
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	160	160	160	161	160	161	160	160	160	159	160	160	159	160	159	160	160	159	160	159	160	160	160	160	160	160
	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
;	Q96503	Q96379	Q96377	Q96381	Q96378	Q96382	Q39425	Q39453	Q39430	Q39420	Q39417	Q39427	023747	Q39428	023749	Q39429	Q9ZS38	023750	Q9SCH6	023746	Q39431	Q9SCH5	Q9ZS39	Q9SYW2	023751	Q39426
,				Q96381 carpinus be				Q39453 corylus ave	Q39430 betula verr			Q39427 betula verr	023747 betula verr		O23749 betula verr	Q39429 betula verr	Q9zs38 betula verr	023750 betula verr	Q9sch6 betula verr		Q39431 betula verr		Q9zs39 betula verr			Q39426 betula verr

ALIGNMENTS

Q86366 Q96366 PRELIMINARY; PRT; 160 AA. C Q96366; PRELIMINARY; PRT; 160 AA. AC Q96366 DT Q01-FEB-1997 (TIEMBLIFE1. 02, Created) DT Q1-FEB-1997 (TIEMBLIFE1. 02, Last sequence update) DT Q1-FEB-1997 (TIEMBLIFE1. 4, Last sequence update) DT Q1-TEB-1997 (TIEMBLIFE1. 4, Last sequence update) DT Q1-TEB-1997 (TIEMBLIFE1. 4, Last sequence update) DT Q1-TEB-1997 (TIEMBLIFE1. 14, Last sequence update) DT Q1-TEB-1997 (TIEMBLIFE1. 14, Last annotation update) DT Q1-TEB-1997 (TIEMBLIFE1. 14, Last annotation update) DT Q1-TEB-1997 (TIEMBLIFE1. 14, Last annotation update) DE POLLEN ALLERGEN EMT V1. C EMAGNOLIOPHYta; endicotyledons; Rosidae; eurosids I; Fagales; CC EMAGNOLIOPHYta; endicotyledons; Rosidae; eurosids I; Fagales; CC EMAGNOLIOPHYta; endicotyledons; Rosidae; eurosids I; Fagales; CC EMAGNOLIOPHYta; ELLONGS TO THE BETVI FAMILY OF PATHOGENESIS-RELATED CC PROTEIN CC																															
195366 PRELIMINARY; PRT; 160 AA. 953366; PRELIMINARY; PRT; 160 AA. 1-FEB-1997 (TrEMBLrel. 02, Created) 1-FEB-1997 (TrEMBLrel. 02, Last sequence update) 1-JUN-0000 (TrEMBLrel. 14, Last annotation update) 0LLEN ALLERGEN BET V 1. etula verrucosa (White birch) (Betula pendula). UNATYPOTA; VITIGIPLANTA: EMPLOYOPHYEA; Tracheophyta; Spermatophyta; agnoliophyta; eudicotyledons; Rosidae; eurosids I; Fagales; etulaceae; Betula. 10 10 10 10 10 10 10 10 10 10 10 10 10	gg VQ	В	Qy	M to	ρ	SQ	ΚW	DR	אַ אַ	DR	DR	DR	DR	DR	3	ဌ	R.	RA	R	RP :	2 0	88	8	SO	Œ	DT	T C	D	A t	100	RESU
	GLPFKYVKDRVDEVDHTNFKYNYSVIEGGPIGDTLEKISNEIKIVATPDGGSILKISNKY 	GVFNYETETTSVIPAARLFKAFILDGDNLFPKVAPQAISSVENIEGNGGPGTIKKISFPE	GVFNYETETTSVIPAARLFKAFILDGDNLFPKVAPQAISSVENISGNGGPGTIKKISFPE	156; Conservative 1; Mismatches 2; Indels 0; Gaps	Match 98.9%; Score 809; DB 10;	B2174110A9588AD4	Pathogenesis-related protein.	P.	IS BETVI:	PFAM; PF00407; Bet_v_I; 1.	INTERPRO; IPR000916;	MENDEL; 30889; Setve; 1174; 30889.	HSSP; P15494; 18TV.	Z80101; CAB02156.1;		TO THE BETVI FAMILY OF	Submitted (SEP-1996) to the EMBL/GenBank/DDBJ databases.		FROM ALLERGON,	SEQUENCE FROM N.A.	Beturaceae; Betura.	cotyledons; Rosidae; eurosids I;	/ta;	Betula verrucosa (White birch) (Betula pendula).	POLLEN ALLERGEN BET V 1.	(TrEMBLrel. 14, Last	(TremBirel, 02, Last	(TremBirel, 02,		DESCRIPTION OF DESCRIPTION OF THE PROPERTY OF	

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Matches 156
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Q42499;
Q1-NOV-1996 (Tremblrel. 01, C
01-NOV-1996 (Tremblrel. 01, L
01-JUN-2000 (Tremblrel. 14, L
MAJOR ALLERGEN BET V 1.
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O24642;
O1-JAN-1998 (TrEMBLrel.
O1-JAN-1998 (TREMBLrel.
O1-JUN-2000 (TREMBLrel.
POLLEN ALLERGEN BETV1.
BETV1.
                                                                          Eukaryota; Viridiplantae; Embr
Magnoliophyta; eudicotyledons;
Betulaceae; Betula.
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HSSP;
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       TISSUE-LEAF;
                              SEQUENCE FROM N.A.
                                                                                                                                                    Betula verrucosa (White
                                                                                                                                                                              BETV1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INTERPRO; IPRO00916; -.
PFAM; PF00407; Bet_v_I; 1.
PRINTS; PR00634; BETALLERGEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Friedl-Hajek R., Radauer C., Hoffmann-Sommergruber K., Leberl K., Riordain G., Scheiner O., Breiteneder H.; Submitted (OCT-1997) to the EMBL/GenBank/DDBJ databases.
-!- SIMILARITY: BELONGS TO THE BETVI FAMILY OF PATHOGENESIS-RELATED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Betula verrucosa (White birch) (Betula
Eukaryota; Viridiplantae; Embryophyta;
Magnoliophyta; eudicotyledons; Rosidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
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AJ002107; CAA05187.1;
P15494; 1BTV.
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98.1%;
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Embryophyta; T
edons; Rosidae;
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e; eurosids I; F
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                                                                                                                                                                                                                                                                  Betula verrucosa (White birch) (Betula pendula).
Eukaryota; Viridiplantae; Embryophyta; Tracheophyta;
Magnoliophyta; eudicotyledons; Rosidae; eurosids I; i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Friedl-Hajek R., Radauer C., O'Riordain G., Hoffmann-Sommergruber K Leberl K., Scheiner O., Breiteneder H.;
"New Betvi isoforms including a naturally occurring truncated form the protein derived from Austrian birch pollen.";
Submitted (JUN-1998) to the EMBL/GenBank/DDBJ databases.
-i- SIMILARITY: BELONGS TO THE BETVI FAMILY OF PATHOGENESIS-RELATED
 PFAM; PF00407; Het_v_I; 1.
PRINTS; PR00634; BETALLERGEN
PROSITE; PS00451; PATHOGENES:
PRODOM; PD000531; -; 1.
                                                                                           EMBL; AJ002108; CAP
HSSP; P15494; 1BTV.
                                                                                                                                                                                                                        SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                 POLLEN ALLERGEN
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PROSITE; PSO0451; PATHOGENESIS_BETVI;
PRODOM; PD000531; -; 1.
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                                                           MENDEL; 26841; Betve; 1174; 26841
INTERPRO; IPR000916; -.
                                                                                                                                                                                                         TISSUE=POLLEN;
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PATHOGENESIS_BETVI;
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INTERPRO; IPRO00916; -.
PRAM; pF00407; Bet.V-1; 1.
PRINTS; PR00634; BETALLERGEN.
PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
PRODOM; PD000531; -; 1.
PATHOGENESIS related protein.
Pathogenesis related protein.
PATHOGENESIS 17670 MW; 69B4410B
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Q96371;
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01-FEB-1997
 Q9SCH8;
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POLLEN ALLERGEN BET V 1.

Betula verucosa (White birch) (Betula pendula).

Eukaryota; Viridiplantae; Embryophyta; Tracheoph

Magnollophyta; eudicotyledons; Rosidae; eurosids
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TISSUE-POLLEN OBTAINED
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Best Local S
Matches 154
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"New Bet v 1 isoforms including a naturally occurring tru of the protein derived from Austrian birch pollen.";

MO1. Immunol. 36:639-645(1999).

REMBL; AJ006911; CAA07326.1; -.

REMBL; AJ006911; CAA07326.1; -.

REMBL; AJ006916; -.

REMBL; PRO0407; Bet_v_I; 1.

REMBL; PRO0407; Bet_v_I; 1.
                                                                                                                                  PROTEIN.
EMBL; Z80105;
HSSP; P15494;
                                                                                                                                                                                                                                                                                                                                                                                                                           Q96370
Q96370;
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01-MAY-2000
01-JUN-2000
                              PFAM, PF00407, Bet_v_I; 1
PRINTS; PR00634; BETALLERGEN.
PROSITE; PS00451, PATHOGENESIS_BETVI;
PRODOM; PD000531; -; 1.
                                                                                                                                                                                                                                                                                                      01-FEB-1997 (TrEMBLrel. 02, Last sequenc 01-JUN-2000 (TrEMBLrel. 14, Last annotat POLLEN ALLERGEN BET v 1.

Betula verrucosa (White birch) (Betula Eukaryota; Viridiplantae; Embryophyta; Magnoliophyta; eudicotyledons; Rosidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Betula verrucosa (White birch) (Betula petula verrucosa (White birch) (Betula peukaryota; Viridiplantae; Embryophyta; Magnoliophyta; eudicotyledons; Rosidae;
                                                                                            EMBL; Z80105; CAB02160.1; -.
HSSP; P15494; 1BTV.
HSSP; 30892; 3etve;1174;30892.
INTERPO; IPRO09916; -.
                                                                                                                                                                                     Submitted (SEP-1996) to -!- SIMILARITY: BELONGS
                Pathogenesis-related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Betulaceae; Betula.
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                                                                                                                                                                                                                       Jarsen J.N.;
                                                                                                                                                                                                                                       TISSUE-POLLEN
                                                                                                                                                                                                                                                                                         3etulaceae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                         SEQUENCE FROM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GVFNYETETTSVIPAARLFKAFILDGDNLFPKVAPQAISSVENISGNGGPGTIKKISFPE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GFPFKYVKDRVDEVDHTNFKYNYSVIEGGPMGDTLEKISNEIKIVATPDGGSILKISNKY
160
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(TIEMBLrel. 13, Last sequence up
(TIEMBLrel. 14, Last annotation
RGEN BETV1, ISOFORM AT50.
                                                                                                                                                                                                                                                                                           Betula.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRECIMINARY;
                                                                                                                                                                                                                                       OBTAINED FROM ALLERGON,
ΑΑ.;
d protein.
17541 MW;
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96.98;
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02, Last sequence update)
14, Last annotation updat
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                                                                                                                                                                                                       the EMBL/GenBank/DDBJ
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Pred. No. 4e-61;
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D8AF110BBD1CDADB CRC64;
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                                                                                                                                                                                                                                       SWEDEN
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e; eurosids I; F
                                                                                                                                                                                                                                                                                                        Tracheophyta; ; eurosids I; I
                                                                                                                                                                                                                                                                                                                                           pendula).
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Fagales;
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Fagales;
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Best Local S
Matches 154
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Best Loc
Matches
                                    Q9SCH9 PRELIMINARY;
Q9SCH9;
01-MAY-2000 (TrEMBLrel. 13, C
01-MAY-2000 (TrEMBLrel. 13, L
01-JUN-2000 (TrEMBLrel. 14, L
POLLEN ALLERGEN BETV1, ISOFOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q9SCIO PREL:
Q9SCIO;
O1-MAY-2000 (TrE:
O1-MAY-2000 (TrE:
O1-JUN-2000 (TrE:
POLLEN ALLERGEN I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                INTERPRO; IPRO00916; -.
PFAM; PF00407; Bet_V_I; 1.
PFAM; PF00634; BETALLERGEN.
PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
SEQUENCE 160 AA; 17572 MW; 99A3581E5B3A03FB CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Friedl-Hajek R., Radauer C., Riordain G., Ho
Leberl K., Scheiner O., Breiteneder H.;
"New Bet v I isoforms including a naturally
of the protein derived from Austrian birch F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Betula verrucosa (White birch) (Betula
Eukaryota; Viridiplantae; Embryophyta;
Magnoliophyta; eudicotyledons; Rosidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL;
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                                                                                                                                                                                                                                                                                                                                                                                        ne protein derived from Austrian Immunol. 36:639-645(1999).; AJJOSES, CAAO7323:1; -.
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    verrucosa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity 96.9
54; Conservative
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(TIEMBLIE1 13, Last sequence up
(TIEMBLIE1 14, Last annotation
RGEN BETV1, ISOFORM AT37.
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  (White
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97.5%;

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    14, Last annotation updat
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birch)
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; Pred. NO. 5.9e
2; Mismatches
                                                                                               Created)
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Pred.
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  (Betula
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No. 4.
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; Tracheophyta;
e; eurosids I; E
  pendula).
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5.9e-61;
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Query Match Best Local S Matches 153

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Best Local S
Matches 154
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Q96365;
01-FEB-1997
                                                                                                                                                                                                                                                MENDEL; 30888; Betve;1174;30888.
INTERPRO; IPRO00916; -.
PFAM; PF00407; Betvu; 1.
PRINTS; PR00634; BETALLERGEN.
PROSITE; PS00451; PATHOGENESIS_BETVI;
PRODOM; PD000531; -; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           PROTEIN.

EMBL; Z80100; CAB02155.1;

HSSP; P15494; LETV.
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Betula verrucosa (White birch) (Betula pendula).

Betula verrucosa (White birch) (Betula pendula).

Eukaryota, Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;

Eukaryota, Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;

Magnoliophyta; eudicotyledons; Rosidae; eurosids I; Fagales;
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EMBL; AJ006910; CAA07325.1; -.
INTERRORO; IPR000916; -.
PFAM; PF00407; Bet_v_I; 1.
PFINTS; PR00634; BETALLERGEN.
PROSTITE; PR006451; PATHOGENESIS_BETVI; 1.
SEQUENCE 160 AA; 17615 MW; 5AZA67BCCC45CA3E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (SEP-1996) to
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01-JUN-2000
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Leberl K., Scheiner O., Breiteneder H.;
"New Bet v 1 isoforms including a naturally
of the protein derived from Austrian birch particular in the protein birch particular in the protein birch particular in the protein bi
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Magnoliophyta; eudicotyledons; Rosidae; eurosids I; Fagales;
Betulaceae; Betula.
                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE=POLLEN
Larsen J.N.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM
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OBTAINED FROM ALLERGON,
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17558 MW;
                                 97.6%;
96.2%;
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Score 798; DB 10;
Pred. No. 7.2e-61;
3; Mismatches 3
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(on update)
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Best Local S
Matches 155
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"Cloning and characterization or allergen Bet v 1.";
submitted (JAN-1999) to the EMB:
EMBL; AF124838; AAD26561.1; -.
INTERPRO; IPR000916; -.
PFAM; PF000407; Bet_v_I; 1.
PRINTS; PR00634; BETALLERGEN.
SEQUENCE 160 AA; 17565 MW;
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01-MAY-2000
01-MAY-2000
01-JUN-2000
ISOALLERGEN!
                                                                                                                                                                                                                                                                                                   Q96368;
Q96368;
    Larsen J.N.;
Submitted (SEP-1996) to
-i- SIMILARITY: BELONGS
PROTEIN.
                                                                               SEQUENCE FROM
TISSUE=POLLEN
                                                                                                                                                           Betula verrucosa (White birch) (Betula pendula).
Eukaryota; Viridiplantae; Embryophyta; Tracheophyta;
Magnoliophyta; eudicotyledons; Rosidae; eurosids I; i
                                                                                                                                                                                                                 01-FEB-1997 (TrEMBLrel. 02, Created)
01-FEB-1997 (TrEMBLrel. 02, Last sequence up
01-JUN-2000 (TrEMBLrel. 14, Last annotation
POLLEN ALLERGEN BET V 1.
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O (TrEMBLrel. 13, 1)
O (TrEMBLrel. 14, 1)
N BET V 1 B2.
                                                                                                                                             Betula.
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                        To 1
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Last sequence up
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                        EMBL/GenBank/DDBJ
HE BETVI FAMILY OF
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                                                                                                                                                      Leberl K., Scheiner C., Riordain G., Hoffl
A Leberl K., Scheiner O., Breiteneder H.;

I "New Bet v 1 isoforms including a naturally occ
tof the protein derived from Austrian birch poll
Mol. Immunol. 36:639-645(1999).

EMBL, AJ006904; CAA07319.1; -.
INTERPRO; IPRO00916; -.
PFAM; PF00407; 9et_vI; 1.

PRINTS; PR00634; BETALLERGEN.
PRINTS; PR00634; BETALLERGEN.
SEQUENCE 160 AA; 17520 MW; EB3128ED2A630A23
                                                                                                                          Query Match
Best Local 9
                                                                                                                  Matches
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Best Local
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                                                                                                                                                                                                                                                                                                                                                     01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence up
01-JUN-2000 (TrEMBLrel. 14, Last annotation
POLLEN ALLERGEN BETV1, ISOFORM AT10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRINTS; PRO0634; BETALLERGEN.
PROSITE; PS00451; PATHOGENESIS_BETVI;
PRODOM; PD000531; -; 1.
                                                                                                                                                                                                                                                                                                               Betula verrucosa (White birch) (Betula Eukaryota; Viridiplantae; Embryophyta; Magnoliophyta; eudicotyledons; Rosidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MENDEL; 30891; Betve;1174;30891.
INTERPRO; IPRO00916; -.
PFAM; PF00407; Bet_v_I; 1.
                                                                                                                                                                                                                                                                            TISSUE-POLLEN;
                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                        Betulaceae;
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           HTKGDHEVKAEQVKASKEMGETLLRAVESYLLAHSDAYN
HTKGDHEVKAEQVKASKEMGETLLRAVEGYLLAHSDAYN
                                                                                                                  154;
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P15494; 1BTV.
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17466 MW;
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                                                                                                                         97.38;
                                                                                                               Score 796; DB Pred. No. 1.1e 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 796; DB Pred. No. 1.1e 2; Mismatches
                                                                                                                                                                 _BETVI; 1.
EB3128ED2A630A23
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eurosids I; F
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..le-60;
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Best Local Similarity
Matches 152; Conserv
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Q9SYW0;
01-MAY-2000
01-MAY-2000
01-JUN-2000
ISOALLERGEN
Friedl-Hajek R., Radauer C., Riordain G., Hoffmann-Sommergruber Itaberl K., Scheiner O., Breiteneder H.;
"New Bet v 1 isoforms including a naturally occurring truncated of the protein derived from Austrian birch pollen.";
Mol. Immunol. 36:639-645(1999).
EMBL: AJ006903: CAA07318:1; -.
INTERPRO; IPR00916; -.
PFAM; PF00407; Bet_v_I; 1.
PRINTS; PR00634: BETALLERGEN.
PROSITE; PS00431; PACHOGENESIS_BETVI; 1.
SEQUENCE 160 AA; 17588 MW; 5715581E49A223E9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q9SCI3 PRELIMINARY; PRT; 160 AA.
Q9SCI3;
Q1-MAY-2000 (TrEMBLrel. 13, Created)
Q1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
Q1-JUN-2000 (TrEMBLrel. 14, Last annotation update)
POLLEN ALLERGEN BETV1, ISOFORM AT8.
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INTERPRO; IPR000916; -.
PRAM; PF00407; Bet_v_I; 1.
PRANTS; PR00634; BETALLERGEN.
PRLNTS; PS00451; PATHOGENESIS_BETVI; 1.
PROSITE; PS00451; PATHOGENESIS_BETVI; 1.
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Son D.Y., Haustein D., Vieths S.;

Cloning and characterization of isoforms of the major k
allergen Bet v 1.";

Submitted (JAN-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AF124837; AAD26560.1; ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Betula verrucosa (White birch) (Betula pendula).
Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; eudicotyledons; Rosidae; eurosids I; Fagales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Betula verrucosa (White birch) (Betula pendula).
Eukaryota; Viridiplantae; Embryophyta; Tracheophyta; Spermatophyta;
Magnoliophyta; eudicotyledons; Rosidae; eurosids I; Fagales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE-POLLEN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Betulaceae;
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95.6%;
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L.3e-60;
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GFPFKYVKDRVDEVDHTNFKYNYSVIEGGPVGDTLEKISNEIKIVTTPDGGCVLKISNKY
                                                                                                      Similarity
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                                                                                                     97.1%;
95.6%;
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Pred. No. 1.6e
3; Mismatches
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Search completed: December 11, 2000, 10:43:04 Job time: 110 sec

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Maximum Match 100%
Listing first 45 summaries
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Maximum DB
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Perfect score:
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US-07-847-010-3
US-07-847-010-17
US-07-847-010-17
US-07-847-010-11
US-07-847-010-11
US-08-363-010-1
US-08-363-010-1
US-08-199-219-6
US-08-459-09-8
US-08-459-09-8
US-08-459-09-8
US-08-459-09-8
US-08-459-09-8
US-08-31-650-12
US-08-323-170B-2
US-08-323-170B-2
US-08-38-711A-7
RE34606-6
US-08-426-627-23
US-08-669-378-4
US-08-669-378-4
US-08-669-378-12
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                                                                                               Sequence 14, Appl
Sequence 17, Appl
Sequence 17, Appl
Sequence 20, Appl
Patent No. 5312912
Sequence 4, Appli
Sequence 6, Appli
Sequence 8, Appli
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Sequence 12, Appli
Sequence 12, Appli
Sequence 12, Appli
Sequence 2, Appli
Sequence 30, Appli
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Sequence 7, Appli
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	Sequence 5, Appli	Sequence 5, Appli	Sequence 2, Appli	Sequence 2, Appli	Sequence 8, Appli	Sequence 37, Appl	Sequence 2, Appli	Sequence 2, Appli	Sequence 2, Appli	Sequence 26, Appl	Sequence 26, Appl	Sequence 26, Appl	Sequence 2, Appli	Sequence 2, Appli	Sequence 2, Appli	Sequence 12, Appl	Sequence 4, Appl:

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RESULT 1
US-07-847-010-23
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/847,010
FILING DATE: 01-JUN-1992
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Jones III, Harry C
REGISTRATION NUMBER: 20,280
REGISTRATION NUMBER: 20,280
                                                                                                             TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 160 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL
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APPLICANT:
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MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Ebner, Christof
APPLICANT: Ferreira, Fatima
TITLE OF INVENTION: Allergens of Alder Pollen and
TITLE OF INVENTION: Applications Thereof
NUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS:
                  HYPOTHETICAL: NO ORIGINAL SOURCE:
                                                                                                                                                                                                          REFERENCE/DOCKET NUMBER: 65
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
                                                  TOPOLOGY: 1i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
CITY: New York
STATE: New York
COUNTRY: U.S.A.
ZIP: 10036-2711
                                                                                             IENGTH: 160 amino acids
ORGANISM: birch (Betula sp.)
                                                                                                                                                                                            TELEFAX:
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5, 5693495
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Rumpold, Helmut
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Valenta, Rudolf
Hoffmann - Sommergruber, Karin
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                                                                          linear
                                                      peptide
                                                                                                                                                                                                                                                     6530-010
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US-07-847-010-3

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TELEFAX: (212) USA TELEFAX: (214) USA TELEX: 66141 PENNIE INFORMATION FOR SEQ ID NO: 3: SEQUENCE CHARACTERISTICS: LENGTH: 160 amino acids TYPE: amino acid
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                                                                                                                                                                                                     APPLICATION NUMBER: US/07/847,010
FILING DATE: 01-JUN-1992
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Jones III, Harry C
REGISTRATION NUMBER: 20,280
REFERENCE/DOCKET NUMBER: 6530-010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tent No.
                  MOLECULE TYPE: peptide HYPOTHETICAL: NO ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                   SOFTWARE: PatentIn Release #1.0, Version CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IMMEDIATE SOURCE:
LIBRARY: POLLEN FROM ALLERGON AB, ENGELHOLM, SWEDEN
                                                                                                                                                                                         TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES:
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OPERATING SYSTEM:
                                                                                                                                                                          TELEPHONE:
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ORGANISM: Alder (Alnus sp.)
                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             62 GFPFKYVKDRVDEVDHTNFKYNYSVIEGGPIGDTLEKISNEIKIVATPDGGSILKISNKY 121
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mes 157; Conserv
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10036-2711
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1155 Avenue of the Americas
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Scheiner, Otto
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Valenta, Rudolf
Hoffmann - Sommergruber, Karin
Breitenbach, Michael
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IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
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Applications Thereof
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98.7%;
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Pred. No. 4.9e-82;
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US-07-847-010-14
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Best Local Similarity
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                                                                                                                                            TELEFAX: (212) 869-974
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
NAME: JONES III, HARTY C
REGISTRATION NUMBER: 20,280
REFERENCE/DOCKET NUMBER: 6530
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 790-9090
                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: Allergens of Alder Pollen and TITLE OF INVENTION: Applications Thereof NUMBER OF SEQUENCES: 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                              ORIGINAL SOURCE:
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                                                            MOLECULE TYPE: PORTHETICAL: NO
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                 MMEDIATE SOURCE:
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                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: FILING DATE: 01-JUN
                                                                                                 TOPOLOGY:
                                                                                                                                                                                                                                                                                                                  CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  62
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                                ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET: 1155 Avenue of the Americas
 LIBRARY:
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POLLEN FROM ALLERGON AB, ENGELHOLM, SWEDEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ferreira, Fatima
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Hoffmann - Sommergruber, Karin
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                              hazel (Corylus sp.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ebner, Christof
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Pred. No. 1.9e-67;
2; Mismatches 19
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US-07-847-010-17
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Patent No. 5693495
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Best Local Similarity
Matches 115; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION: APPLICANT: Breite
                                                                                                                                                            INFORMATION FOR SEQ ID NO: 17:
                                                                                                                                                                                                                                                                                                                              COMPUTER KEALABLE
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, V
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF
                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
NAME: JONES III, Harry C
REGISTRATION NUMBER: 20,280
REFERENCE/DOCKET NUMBER: 65:
                                                          MOLECULE TYPE: PO
                                                                                                                                        SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                       TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
                                           ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES:
               ORGANISM: hazel (Corylus sp.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
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                                                                                                                                                                   TELEFAX: (212) 005
TELEX: 66141 PENNIE
                                                                                                                                                                                                      TELEPHONE:
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                                                                                             TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                       CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/0:
FILING DATE: 01-JUN-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                 STATE: New York COUNTRY: U.S.A. ZIP: 10036-2711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       62 GSRYKYVKERVDEVDNTNFKYSYTVIEGDVLGDKLEKVCSELKIVAAPGGGGSILKISSKF 121
                                                                                                                         LENGTH:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New York
                                                                                                         amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INVENTION: Allergens of Alder Pollen and INVENTION: Applications Thereof
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Application US/07847010
                                                                                                                             160 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pennie & Edmonds
1155 Avenue of the Americas
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Breitenbach, Michael
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POLLEN FROM ALLERGON AB, ENGELHOLM, SWEDEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ferreira, Fatima
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Scheiger,
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                                                                                                                                                                                                         (212)
                                                                            peptide
                                                                                                                                                                                         869-9741/8864
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                                                                                                                                                                                                                                         6530-010
                                                                                                                                                                                                                                                                                                                                                                      Version #1.25
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US-07-847-010-1
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Best Local Similarity
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                                                                                                                                           INFORMATION FOR SEQ ID NO: 11:
                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: PM PC FLOS/MS-POS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                  CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Jones III, Harry C
                                ORIGINAL SOURCE
                                            MOLECULE TYPE: peptide HYPOTHETICAL: NO
                                                                                                                                                                                        TELECOMMUNICATION INFORMATION: TELEPHONE: (212) 790-9090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: Allergens of Alder Pollen and TITLE OF INVENTION: Applications Thereof NUMBER OF SEQUENCES: 23
ORGANISM: hazel (Corylus sp.)
IMMEDIATE SOURCE:
                                                                                                                           SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
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                                                                                                                                          TELEFAX: (21, PENNIE TELEX: 66141 PENNIE
                                                                                     TYPE: amino acid
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                                                                               TOPOLOGY:
                                                                                                                                                                                                                       REGISTRATION NUMBER: 20 REFERENCE/DOCKET NUMBER:
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                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CITY: New York
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                                                                                                              160 amino acids
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                                                                               linear
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72.3%;
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                                                                                                                                                                                                                          6530-010
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Pred. No. 1.3e-60;
Momatches 22;
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POLLEN FROM ALLERGON AB, ENGELHOLM, SWEDEN

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RESULT 6
US-07-847-010-20
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                                                                                                                     TELEX: 66141 PENNIE INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
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APPLICANT:
APPLICANT:
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                                     MOLECULE TYPE: PO
HYPOTHETICAL: NO
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
              IMMEDIATE SOURCE:
                                                                                                                                                                                       REFERENCE/DOCKET NUMBER: 65
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk
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                                                                    TOPOLOGY: lin-
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                                                                                                                                                     TELEPHONE: (212) / 50 TELEPHONE: (212) 869-9741/8864
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                                                                                                                                                                                                                    NAME: Jones III, Harry REGISTRATION NUMBER: 20
                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY:
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LIBRARY:
                         ORGANISM:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Application US/07847010
                                                                                                          160 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                           1155 Avenue of the Americas
POLLEN FROM ALLERGON AB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ferreira, Fatima
FENTION: Allergens of Alder Pollen and
FENTION: Applications Thereof
FOURNESS: 23
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Kraft, Dietrich
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Valenta, Rudolf
Hoffmann - Sommergruber,
                         hazel (Corylus sp.)
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                                                                peptide
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71.78;
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                                                                                                                                                                                                                     20,280
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Pred. No. 6e-60;
ENGELHOLM, SWEDEN
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
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RESULT 7
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US-08-363-010-1
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APPLICANT: HADWIGER, LEE A.;CHIANG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FOR GENETICALLY ENGINEERING DISEASE RESISTANCE AND OTHER INDUCIBLE TRAITS IN PLANTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DANIEL A.
                                                                                                                                                                                                                                 Sequence 1, Application US/08363010 Patent No. 5512484
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Best Local Similarity
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Best Local Similarity
                                                                                                                                                                        GENERAL INFORMATION:
APPLICANT: Yamamoto, Mika
APPLICANT: Oheda, Kenji
                                                                                                   TITLE OF INVENTION: CARROT 16 KD PROTEIN, GENE CODING FOR TITLE OF INVENTION: SAID PROTEIN AND PLASMID CONTAINING SINUMBER OF SEQUENCES: 6

CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             122 HAKGDHEINAEEMKGAKEMAEKLLRAVETYLLAHSAEYN 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121 HTKGDHEVKAFQVKASKEMGETILLRAVESYLLAHSDAYN 159
                                                                                                                                                                                                                                                                                                                                                                            121 HTKGDHEVKAEQVKASKEMGETLLRAVESYLLAHSDAYN 159
                                                                                                                                                                                                                                                                                                                                          121
COUNTRY: UZIP: 22042
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                                                                   STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                 61 DGETKYYLHKYELYDDANWANNYSIVGGYGLPDTVEKISFEAKLSAGPNGGSIAKLSVKY 120
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER:
                                                                                    ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 GVENYETETT$VIPAARLEKAFILDGDNLFPKVAPQAISSVENISGNGGPGTIKKISFPE 60
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                                                                                                                                                                                                                                                                                                                                                                                                                                    GLPFKYVKDRYDEVDHTNFKYNYSVIEGGPIGDTLEKISNEIKIVATPDGGSILKISNKY 120
                                                                                                                                                                                                                                                                                                                                          YTKGDAIPSEEEIKNGKAKGEGIFKALEGYCVANPD-YN 158
                                                  Falls Church
                               Virginia
                                                                   E: Birch, Stewart, Ko
8110 Gatehouse Road,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
               U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
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71.18;
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Pred. No. 1.1e-33;
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Pred. No. 3.6e-59;
                                                                   Kolasch & Birch,
d, Suite 500 East
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
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2

Floppy disk

OPERATING SYSTEM:

IBM PC compatible SYSTEM: PC-DOS/MS-DOS

Release #1.0, Version #1.30

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US-08-911-434A-4
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                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 4, Application US/08911434A Patent No. 5959176
                                                                                                                                                                                                                                                                                                                                                                                          Patent No. 5959176 GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: (703) 205-805
TELEX: 248345
INFORMATION FOR SEQ ID NO:
                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/911,434A
FILING DATE: 12-AUG-1997
                                                                                                                                                                                                                                                                                            APPLICANT: TORIKAI, Satomi
APPLICANT: OEDA, Kenji
TITLE OF INVENTION: PLANT PROMOTER AND UTILIZATION THEREOF
NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE/DOCKET NUMBER: 20 TELECOMMUNICATION INFORMATION: TELEPHONE: (703) 205-8000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
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CURRENT APPLICATION DATA:
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     ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                                       STREET: P.O. BOX 7. CITY: FALLS CHURCH STATE: VIRGINIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE: (703) 205-8050
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                          CLASSIFICATION:
                                                                                                                                                                                                        COUNTRY:
                                                                                                                                                                                                                                                                                 ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
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STRANDEDNESS: single
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FILING DATE: 23-DEC-1994
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57; Conservative
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                                                                                                                                                                                                        UNITED STATES OF AMERICA
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                                                                                                                                                                                                                                                            BIRCH, STEWART, KOLASCH & BIRCH, O. BOX 747
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NO
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; MOLECULE TYPE:
US-08-911-434A-4
                                                         Matches 57;
                                                                        Query Match
Best Local Similarity
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Best Local Similarity
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                                                                                                                                                                                                        TYPE:
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4 NYETETTSVIJAARLFKAFILDGDNLFPKVAPQAISSVENISGNGGPGTIKKISFPE-GL 62 : | : | | : | | | | | | | | | : | | : | | : | | | | | | : |
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Patent No. 6031151 5698768
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FILING DATE: 01 MARCH 1994
PRIOR APPLICATION DATA: APPL
PRIOR APPLICATION DATA: FILI
INFORMATION FOR SEQ ID NO: 6:
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                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOTTWARE: Patentin Release #1.0, Version #1.25 (EPO)
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
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LENGTH: 154 amino acids
TYPE: amino acid
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TELECOMMUNICATION INFORMATION:
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                                                                                                                                                                            amino acids
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1455 PENNSYLVANIA AVENUE, N.W.
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37.0%; Pred. No. 6.4e-23;
rative 31; Mismatches 65;
29.3%; Score 240; DB 3; I
36.5%; Pred. No. 4.3e-19;
htive 30; Mismatches 65;
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                                                                                                                                                                                                                                                                                                                                                                US/08/199,219
                                                                                                                                                                                                                                                                        APPLICATION NUMBER: PCT/GB92/01602 FILING DATE: 02 SEPTEMBER 1992
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                                            Length 158;
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Best Local :
                                                                                                                                                    Matches
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                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX: (508)-435-09 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: PatentIn Relec
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/
FILING DATE: 16-DEC-199
CLASSIFICATION: 435
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                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
LENGTH: 669 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: KELLY, ROBIN D
REGISTRATION NUMBER: 34,
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                       MOLECULE TYPE:
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                                                                                          216
 120 YHTKGDHEVKAEQVKASKEMGETLL----RAVESYLLAH 154
                              260 MPNNMKDMLDVLEETS-----GSGMGPTTLHKLTIGGQIRLTGRVGSGRFGNVS--
                                                                                                                                                                                                                                                           NAME/KEY:
LOCATION:
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                                                             83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                  Local
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                                                          PFKYVKDRVDEVDHTNFKYNYSVIEGGPIG-DTLEK--ISNEIKIVATPDGGSILKISNK 119
                                                                                        ETENNVPMVTM------GDGAGSSVPEVAPIEQQGSTMSTSAGN-----
                                                                                                                     ETTSVIPAARLFKAFILDGD----NLFPKVAP--QAISSVENISGNGGPGTIKKISFPEGL 62
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OPPERMANN, HEI
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Pred. No.
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COCATION: 1:669
OTHER INFORMATION:
US-08-459-009-8
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US-08-459-009-8
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                                                                                                                                                                                                                               Query Match
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APPLICANT:
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ATTORNEY/AGENT INFORMATION:
NAME: KELLY, ROBIN D
REGISTRATION NUMBER: 34,0
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION DATA:
APPLICATION NUMBER: U
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE: . protein
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 309
                                120 YHTKGDHEVKAEQVKASKEMGETLL----RAVESYLLAH 154
                                                                 260 MPNNMKDMLDVLEETS--
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                                                                                                                                                     8 ETTSVIPAARLFKAFILDGD---NLFPKVAP--QAISSVENISGNGGPGTIKKISFPEGL 62
                                                                                                                                                                                                                                                                                                                                   NAME/KEY:
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---RGDYRGE&VAVKVFNALDEPAFHKETEIFETRMLRH 344
                                                                                              PEKYVKDRVDEVDHTNEKYNYSVIEGGPIG-DTLEK--ISNEIKIVATPDGGSILKISNK 119
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                                                                                                                               ETENNVPMVTM-----GDGAGSSVPEVAPIEQQGSTMSTSAGN-----SFPPGI 259
                                                                                                                                                                                                l Similarity
39; Conserv
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01748
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OPPERMANN, HERMANN
KUBERASAMPATH, THANGAVEL
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24.5%;
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5; Mismatches
                                                                 -GSGMGPTTLHKLTIGGQIRLTGRVGSGRFGNVS-- 308
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RESULT 14
US-08-316-650-12
; Sequence 12, Application US/08316650
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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APPLICANT:
APPLICANT:
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MEDIUM TYPE: Floppy disk
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REFERENCE/DOCKET NUMBER: TELECOMMUNICATION INFORMATION:
TELEPHONE: (508)-435-9001
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PRIOR APPLICATION DATA:
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CORRESPONDENCE ADDRESS:
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                                                                                                                                              120 YHTKGDHEVKAEQVKASKEMGETLL----RAVESYLLAH 154
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LOCATION: 1.669
OTHER INFORMATION: /note= "C ELEGANS RECEPTOR KINASE"
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
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TOPOLOGY: lin
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KUBERASAMPATH, THANGAVEL
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TELEX: 79-0924
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 1442 amino acid
                                                                                                                            Sequence 12, Applicat GENERAL INFORMATION:
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Best Local Similarity
Matches 38; Conserv
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APPLICANT:
                                 TITLE OF INVENTION: ME
TITLE OF INVENTION: CE
NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                      1240 DLKLCHPEWKSGDYWIDPNQGCTLDAMKVFCNMETGET 1277
                                                                                                                                                                                                                                                                                                          1188 PDPMQYM--RADEADSTLRQHDVEV-----DATLKSLNNQIESIRSPDGSRKNPARTCQ 1239
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (512) 418-3000
TELEFAX: (713) 789-2679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08
FILING DATE: 30-SEP-1994
ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                   1130 DGSNGIPGPIGPPGPRGRSGETGPVGPPGSPGPPGPPGPPGPPGI--DMSAFAGLGQREKG 1187
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                                                                                                             APPLICANT:
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                                                                                                                                                                                                                                                                      113 ILKISNKYHTKGDHEVKAEQ-----VKASKEMGET 142
                                                                                                                                                                                                                                                                                                                                              63 --PFKYVKDRVDEVDHTNFKYNYSVIEGGPIGDTLEKISNEIKIVATPDGG------S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                       25 DGDNLFP-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRANDEDNESS:
TOPOLOGY: 11:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME: Parker, David L. REGISTRATION NUMBER: 32,165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: FILING DATE: 30-SE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY: USA
ZIP: 77210
   STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Houston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      amino acid
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                                                                                                                                             Application
P.O.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1442 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Roessler, Blake J.
Goldstein, Steven A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      linear
 Arnold, White & D. Box 4433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Arnold,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             peptide
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                                                                                                                                                                                                                                                                                                                                                                                                                     -----KVAPQAISSVENISGNGGPGTIKKISFPEGL-----
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                                                                       METHODS AND COMPOSITIONS FOR STIMULATING BONE CELLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                       9.5%; Score 78; DB 2; Length 1442; 24.1%; Pred. No. 8.8; tive 18; Mismatches 52; Indels
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                                                      18
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                    Durkee
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CLASSIFICATION DATA:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/316,650
FILING DATE: 30-SEP-1994
CLASSIFICATION:
APPLICATION NUMBER: US 08/199,780
FILING DATE: 18-FEB-1994
CLASSIFICATION NUMBER: US 08/199,780
FILING DATE: 18-FEB-1994
CLASSIFICATION NUMBER: 32,165
RECISTRATION NUMBER: UMICOO9P--
TELECOMMUNICATION INFORMATION:
TELEFAX: (713) 789-2679
TELEX: 79-0924
INFORMATION FOR SED ID NO: 12:
SEQUENCE CHARACTERISTICS:
LENGTH: 1442 amino acids
TYPE: amino acids
TYPE: amino acids
STRANDEDNESS: single
TOPOLOGY: linear
TOPOLOGY: linear
Search completed: December 11, 2000, 10:41:41 Job time: 198 sec
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 9.5%; Score 78; DB 4; Length 1442; Best Local Similarity 24.1%; Pred. No. 8.8; Matches 38; Conservative 18; Mismatches 52; Indels 50;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS/ASCII

SOFTWARE: Patentin Release #1.0, Version

SOFTWARE: #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: PCT/US95/02251

FILING DATE: CONCURRENTLY HEREWITH

CLASSIFICATION:
                                                                                                                                       1240 DLKLCHPEWKSGDYWIDPNQGCTLDAMKVFCNMETGET 1277
                                                                                                                                                                                                                                                      1188 PDPMQYM--RADEADSTLRQHDVEV-----DATLKSLNNQIESIRSPDGSRKNPARTCQ 1239
                                                                                                                                                                                                                                                                                                                                                                           1130 DGSNGIPGPIGPPGPRGRSGETGPVGPPGSPGPPGPPGPPGPGI--DMSAFAGLGQREKG 1187
                                                                                                                                                                                                113 ILKISNKYHTKGDHEVKAEQ-----VKASKEMGET 142
                                                                                                                                                                                                                                                                                             63 --PFKYVKDRVDEVDHTNFKYNYSVIEGGPIGDTLEKISNEIKIVATPDGG------S 112
                                                                                                                                                                                                                                                                                                                                                                                                                                 CCITY: Houston
STATE: Texas
COUNTRY: United States of America
ZIP: 77210
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